



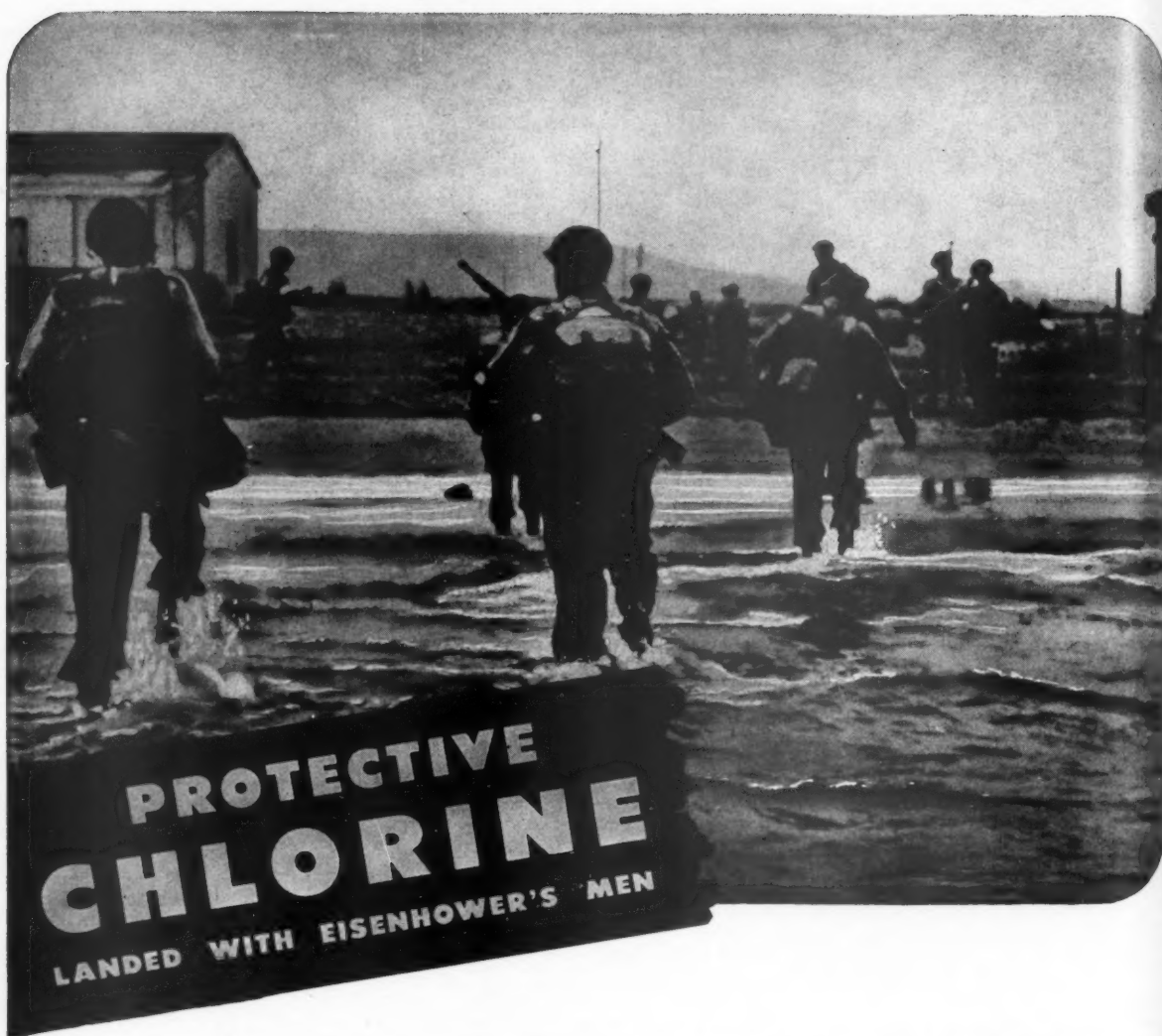
PIKES ON THE AXIS. 1—A man is released to fight. 2—Sawmill waste is utilized as fuel by LONGFIBRE CO.

Vol. 17 • No. 6

Pulp & Paper

PACIFIC INDUSTRY

JUNE • 1943



A chemical ally went ashore with the first American troops to set foot on North Africa. It was chlorine—the soldiers' first line of defense against water-borne disease and similar hazards.

Penn Salt provides the armed forces with this "fightin'" chemical to serve Uncle Sam's fighters in many important ways.

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PENNSYLVANIA SALT
MANUFACTURING CO. OF WASHINGTON
Chemicals
TACOMA, WASHINGTON





*The Journal of the
Pacific Coast Industry*

JUNE • 1943

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No. 6

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More on Essentiality of the Industry (An Editorial)

COL. ELMER V. WOOTON, Army of the United States, State Director of Selective Service in Oregon, has joined with other top manpower chiefs of the Pacific Northwest in including pulp and paper mills among "essential activities" and proclaiming that "every possible assistance" is being given to the industry by the draft boards.

In a letter from his headquarters in Salem, dated May 29, to the editor of PACIFIC PULP AND PAPER INDUSTRY, Colonel Wooton wrote: "The necessity for rendering every possible assistance to the pulp and paper mills in this state has long been recognized and workers in that industry have received the same consideration for occupational deferment as those employed in other essential activities."

L. C. Stoll, War Manpower Commission area director for Oregon, recently sent a letter to all pulp and paper mills in his state assuring them they were NOT considered as non-essential.

Even though negatively stated, these declarations from the top manpower chiefs in Oregon, following the article in the March issue of PACIFIC PULP AND PAPER INDUSTRY, written by Colonel Walter J. DeLong, Washington State Director of Selective Service, should be both interesting and helpful to the industry everywhere—not only in the Pacific Northwest.

★ ★ ★
● Many newspapers of the Pacific Coast published excerpts from Colonel DeLong's article in which he stated:

"Your State Selective Service System views the pulp and paper industry of Washington as essential to the war effort. There are no ifs and buts about that statement. . . . Your industry is . . . on an equal plane with basic war industries."

The Pacific Coast Association of Pulp & Paper Manufacturers distributed some 12,000 reprints of the article.

Here are some comments on his article:

William Bond Wheelwright, Boston, author of a bulletin on the importance of paper distributed by the National Paper Trade Association: "Congratulations on publishing the fine article by Colonel DeLong. Too many officials and people in general are ignorant of paper's importance in human life. I would like permission to reprint this article in whole or in part." (Granted.)

Antioch, Calif., Ledger: ". . . worth reading and will show Antioch's largest industry (Fibreboard Products Inc.) is as much a war industry as though it was a wing on a plane factory, a unit of a powder factory, a machine shop in a navy yard. . . . Antioch people engaged in jobs listed non-essential . . . would not have to change their point of residence, merely their jobs . . ."

Tacoma, Wash., Times: "While Tacoma's big pulp mills stand dormant, their skilled personnel scattered to 'essential war industries,' a military man tells just how important pulp is to the war effort. . . . By odd chance a man of the same name is head of Tacoma's largest pulp mill, St. Regis Paper Company, Kraft Pulp Division. This Walter J. DeLong declared 'if what he says is so, the people ought to know it'."

★ ★ ★
● In mid-May a national ruling by the War Manpower Commission at long last placed the cutting of pulpwood and the manufacture of pulp as well as certain kinds of paper in the categories of essential activities. Thus, it was at least recognized in Washington, D. C., that in order to have essential pulp products, the pulp must also be recognized as essential.

★ ★ ★
● This all makes "good reading" for the industry.

But these rulings, the article by Colonel DeLong and other authoritative statements should not be exaggerated.

There is just one certainty today in regard to American manpower.

It is this—as men are needed for the army, they will be called up, regardless of whether they work in a shipyard or a paper mill. Each case is treated on its individual merits. The shipyard has no blanket rating above the paper mill.

This is agreeable to the pulp and paper industry. It agrees wholeheartedly that the army and our fighting needs must come first.

British Columbia Log Situation Will Be Surveyed Again

Few logs expected to be shipped across international line before fall . . . Controversy over whether the shortage is more acute in Canada or in the United States points to need for a fair appraisal under conditions acceptable to both sides.

BRITISH COLUMBIA'S ability to export pulp logs to Puget Sound mills will again be surveyed at first hand this month when Canadian Timber Controller A. H. Williamson of Vancouver returns to the Coast from his wartime office in Ottawa.

Mr. Williamson is accompanied on his western tour by Claude Crispin, formerly of Seaboard Lumber Sales, who went east with Ralph Shaw, of the H. R. MacMillan organization, as special advisor to the Timber Control from British Columbia, several months ago.

Although the log supply situation has improved a little during the past month, it is still far from favorable, and the general feeling in the industry in British Columbia is that few, if any, logs will be spared for the export trade until the fall.

When Timber Controller Williamson was in Vancouver last winter he said that Canada's log export policy would be changed so that, by the terms of the Hyde Park Agreement, the raw materials of Canada and the United States would be shared by each country alike, inferring that pulpwood logs from British Columbia would soon be available for the United States.

Subsequent events showed that Mr. Williamson had been premature in his assurance that logs would be exported, because at mid-year hardly a stick of pulpwood has been shipped across the border from British Columbia.

Shortage Was Underestimated

Mr. Williamson had underestimated the actual and potential log shortage in British Columbia and, according to British Columbia operators, he had been given a false impression of the relative log supplies in British Columbia and Puget Sound because the difference in operating schedules and hours worked at mills on either side of the border had not been considered in working out the percentages. The data in Mr. Williamson's hands when he made his statement in Vancouver indicated that the shortage of logs was more acute in the state of

Washington than in British Columbia. This claim has been disputed right along by pulp and paper operators on the Canadian side. It has been just as fervently upheld in Washington. The need for an appraisal, fair and acceptable to both sides, is thus demonstrated.

Mr. Williamson had not taken into account a scarcity of experienced men in the woods and the adverse effect of employing more green hands, the almost unprecedented severity of the winter of 1942-43 and its resultant shutdown of nearly all the coast's logging camps and the long period of rough weather which made towing of log booms and rafts in open water difficult if not impossible for many weeks after the snow's disappearance had enabled some camps to resume production.

Powell River Company, British Columbia's leading newsprint producer, has probably been harder hit than any other mill. The big plant was shut down for two periods of a week and most of the spring it has been on a five and two-thirds day basis of operation weekly, one shift being eliminated each Monday.

B. C. Pulp & Paper Company has been affected, too, although it hoped to develop more production from the Holberg camp, recently opened.

Building Situation Eases

Pacific Mills, Ltd., at Ocean Falls has been in a better position because of its long-term policy of open-market buying and the fact that it was able to develop a substantial surplus of logs last winter during the period when water shortage made it necessary to curtail production.

Log shortage became so serious in British Columbia early this spring that all civilian building was prohibited for several months. The situation was reported somewhat easier early in June when Assistant Timber Controller D. D. Rosenberry issued a circular to all sawmills in Greater Vancouver and on Vancouver Island urging them to make available "a reasonable amount of stock" for consumption in those areas so that

a minimum of house construction may take place.

But logs are still definitely scarce, and so far this year production has been about 25 per cent down, compared with 1942. If dry weather during the next two months creates a fire hazard sufficient to close the camps, the log situation will become much worse inasmuch as the industry will enter the shutdown period with inventories at the lowest point in many years.

B. C. Loggers Employ Only About 125 Japs

● Sawmills, logging and pulpwood operators in British Columbia are not likely to derive much benefit from employment of Japanese this summer, as so far only about 125 have been engaged, according to officials of the British Columbia Security Commission.

When the Canadian government first gave its authority for the employment of Japanese in the woods of the interior, spokesmen for the industry said that several thousand would probably be given employment. That these hopes have not been realized is said by security commission representatives to be due to the apparent apathy of some of the operators or the difficulties in the employment procedure.

"Many Japanese would be only too glad to get some work to do, but very few applications have been made for their services," PACIFIC PULP & PAPER INDUSTRY was informed. "So far, Pondsosa Pine Lumber Company at Monte Lake is the biggest employer of Japanese labor, and it has only 35 on the payroll."

Operators must make application through National Selective Service and various other government agencies to get their men, and it is believed that the delays and inconvenience of this procedure are chiefly responsible for the lack of response.

It has been expected that extensive employment of Japanese in the interior would release experienced white loggers for the coast, but the effect will obviously be negligible unless more Japanese are signed up.

In any event no Japanese will be employed on Vancouver Island or in other parts of the coastal area. All of the 24,000 Japanese in British Columbia at the time of Pearl Harbor have been evacuated from the coast and most of those available for employment are now located in the Slocan, Greenwood and Bridge river areas.

Russell M. Cooper, general superintendent of the Powell River Company, has been in eastern Canada and the United States on business.

Kraft Crisis Stresses Need For St. Regis Reopening

● The increasingly critical shortage of kraft paper, strongest of all papers made from wood pulp and therefore one of the most important war products of the industry, has centered attention on the possibilities of reopening the St. Regis Company's kraft pulp division in Tacoma, Wash.

Heavy manpower losses in the south, with many negro employees going to work in shipyards and other new war industries, has cut heavily into the essential war production of the kraft mills in that section of the country.

Roy K. Ferguson, president of the St. Regis Paper Company, with headquarters in New York City, spent about ten days recently in Tacoma and the Pacific Northwest.

He stressed that the question of reopening the Tacoma mill is a question to be decided by the War Production Board. The one outstanding problem to be solved is a source of logs and any hemlock imports from Canada should help the St. Regis cause. However, it is well known that the log situation is very acute in the Puget Sound area and there



ROY K. FERGUSON, president of St. Regis Paper Company, New York City, who in late May spent ten days in Tacoma and vicinity.

are many informed persons who are dubious of any improvement.

Although 709 employees of the mill were scattered when it was forced to close by WPB order last No-

vember 1, owing to the log shortage, it is believed that reassembling of personnel would be a secondary problem.

Mr. Ferguson was not too sanguine over prospects but he said, while on his visit here in late May, that he planned to visit Washington, D. C., on his return and hold further consultations with the WPB.

Walter DeLong, vice president and manager of the Tacoma mill, was in Washington recently in connection with his duties as a member of the pulp and paper industry advisory committee.

Mr. Ferguson, in an interview in Tacoma, said his company contemplates enlarging the Tacoma plant after the war by installing a paper making machine which will result in the employment of several hundred more men at the plant.

He said there also was a possibility that a new department would be added to make plastics in Tacoma. The St. Regis Company is already making plastics in the east and extension of the plastics operation to the west will depend on the market, he said.

ON THE COVER

● is Jean Erickson, doing what used to be a man's job at Longview Fibre Company, Longview, Wash., and thus helping to ease the manpower shortage for Uncle Sam. She is shown feeding No. 4 grinder in the ground wood mill and that kind of work is no snap even for a man. Also helping the war effort by utilizing waste material, she is feeding the machine wood obtained by Longview Fibre Company from nearby Long Bell Lumber Company.

This photograph was made by Rex Russell, one of Longview Fibre's pulp mill general foremen.

There were well over 200 women doing mill work at Longview Fibre, nearly one-fifth of the total staff. Of these, 67 were working at what had been considered men's jobs before Pearl Harbor. There were 101 women in the bag factory, 63 in the box factory, 22 in the groundwood mill, nine in the control department, six janitoresses and three in the finishing room.

Puget Sound Company Forecasts Improved Log Situation

● In the Puget Pulp News, an informal report to stockholders issued on May 14, the Puget Sound Pulp & Timber Company of Bellingham, Wash., analyzed the outlook for the entire Puget Sound industry as critical but improving.

"Indications are that the low point in production has been passed," said the report.

"Normal logging operations have now been resumed, and it is hoped that domestic log production will soon be augmented by shipment from Canada, although the date of resumption of such shipments is still in doubt.

"An improvement in the pulp production rate is in sight from April onwards. Any increase in pulp production should register favorably on the operating statement, as the foregoing analysis indicates," the Puget Pulp News continued.

"In the Pacific coastal section of Canada, the winter shut-down in the season just passed extended two months instead of the usual two or three weeks.

"Now that good logging weather prevails, the Canadian Government is co-operating in an effort to increase production by authorizing commanding officers of military units on the coast to grant three months' leave of absence to

soldiers with logging experience. Also, shipyard workers who were formerly loggers are being encouraged to return to the woods.

"As both measures are on a purely voluntary basis, it is not clear how beneficial the effect will be.

"Due to log shortage, manpower limitations, restrictions on paper consumption by publishers, and other causes, pulp production of the domestic industry in the first quarter of 1943 was about 18 per cent behind last year, all grades combined. Chemical pulp production was about 17 per cent off, and of unbleached sulphite, about 32 per cent below last year. These percentage declines were lower than in the Puget Sound area where, due to local conditions, some mills were closed down entirely.

"Present war demands upon the industry are the most serious it has ever faced. Every effort is being made, both in the United States and Canada, to produce more logs, so that pulp and paper mills in turn may produce their products in whatever quantity the war program requires."

First Quarter Report

● Manufacturing operations at the Puget Sound Pulp & Timber Company,

of Bellingham, Wash., were maintained at about fifty per cent of capacity during the first quarter of 1943, owing to the critical log shortage and the embargo on shipments of Canadian logs to the United States.

The company's interim report shows greatly reduced output of pulp as compared with the corresponding period in 1942. The failure of log exports to resume from British Columbia—as had been planned earlier in the year by Canadian authorities—has hit several other mills in the Puget Sound area. Some of them are on almost a "hand to mouth" status, making continuous operation precarious.

The Puget Sound company's report said pulp output of 21,181 tons for the quarter, compared with 42,723 tons in the first three months of 1942.

Net profit of \$110,547 on operations were realized after tentative provision of \$131,856 for Federal taxes. This compared with \$237,522 net profit, after \$622,130 for Federal taxes, in the first quarter of 1942. Net in the 1943 first quarter equalled 29 cents a share of outstanding common stock, compared with 68 cents a share a year ago.

Net sales and other revenue amounted to \$1,307,048 in the first quarter of 1943, in comparison with \$2,370,260 in the 1942 period.

Reflecting today's higher cost of doing business, cost of sales and other expenses, amounting to \$938,578 in the



EDWARD ANDERSON, OF OLYMPIA, WASH., who was recently elected a director of the Puget Sound Pulp & Timber Company of Bellingham. Mr. ANDERSON, brother of the late OSSIAN ANDERSON, who was President of the company, is an executive of three lumber companies.

first quarter of 1943, consumed 71.8 per cent of gross revenue, according to the

company's report, against \$1,384,781, or 58.4 per cent of gross, in the first quarter of 1942.

Profit of \$242,403, before tax provisions, represented 18.6 per cent of gross revenue, in comparison with \$859,652, or 36.3 per cent of gross, in the 1942 period. Net after tax provisions was about 8.5 per cent of gross revenue, compared with 10 per cent a year ago.

Election of Officers

● Edward Anderson, Olympia, Wash., lumberman, was recently elected to the board of directors of the Puget Sound Pulp & Timber Company of Bellingham, Wash. He succeeded the late Ralph H. Miller, of Seattle, who resigned because of ill health.

The new director, a brother of the late Ossian Anderson, former president of the Puget Sound company, is vice-president of the Tumwater Lumber Mills, president of the Olympia Harbor Lumber Mills, and president of the Bridgeport Lumber company.

All officers of the company were re-elected. Secretary Harry A. Binzer, now in federal service, was granted a leave of absence for the duration, and the duties of assistant secretary added to those of William Sealy, the company treasurer. Other officers of the company are: Fred G. Stevenot, San Francisco, president; L. P. Turcotte, Bellingham, executive vice-president; H. M. Robbins, Seattle, vice-president, and Ralph M. Roberg, Bellingham, vice-president.

Directors of the company in addition to Edward Anderson, are Robert H. Evans, Seattle; William C. Keyes, Bellingham; J. L. Rucker, Everett, and Messrs. Stevenot, Trucotte and Robbins.

Norwood Joins St. Helens As Night Superintendent

● The St. Helens Pulp and Paper Company of St. Helens, Oregon, has announced the employment of Merrill E. Norwood as night superintendent of its St. Helens plant, effective last June 1.

Mr. Norwood is well known in industry circles. He was born some 46 years ago in Watertown, New York, and



MERRILL E. NORWOOD, whose appointment as Night Superintendent of the St. Helens Pulp & Paper Company, St. Helens, Ore., became effective June 1.

began his experience in the pulp and paper industry by employment in the plant of the International Paper Company of that city. He worked his way up through various positions with that organization, and in 1922 came west to take a position with the Crown Zellerbach Corporation at Camas, Wash.

Except for a brief interim period at Powell River, B. C., as back tender, he worked at Camas for a number of years, being employed at back tending, machine tending and as spare hand, and finally held the position of assistant boss machine tender. He held this latter job for a number of years and then took the position of general superintendent of the Columbia River Paper Mills plant at Vancouver, Wash. This latter association was just prior to his coming with the St. Helens Pulp and Paper Company.

Advancing through the vice chairman ranks, Mr. Norwood became the chairman of the Pacific Coast Division of the American Pulp & Paper Mill Superintendents Association at its eighth annual December meeting in Seattle on December 6, 1941, on the eve of Pearl Harbor. Because of the war he held this office for eighteen months instead of the customary one year term. The 1942 winter meeting was abandoned and the election of his successor therefore was postponed until the Joint Superintendents-TAPPI meeting in Portland last May 22. Mr. Norwood served as head of the west coast group during one of its most difficult periods, when many unusual wartime problems and complications had to be faced.

On May 27, 1943, Mr. Norwood was married to Thelma Rayno, a secretary in the Crown Zellerbach office in Portland.

Zimmerman Leaves Pacific Paper Board

● Arthur Zimmerman has resigned his position as vice president and general manager of Pacific Paper Board Company of Longview, Washington, and is looking forward to a few weeks of well earned rest.

Mr. Zimmerman, who had been with the Pacific Paper Board Company for twelve years, came to Longview from Dallas, Texas, where he had been employed by the E. T. Fleming Paper Company as superintendent. Before that, he occupied the same position for the Ches. Boldt Paper Company in Cincinnati and New Liberia, La.

Born 48 years ago in Wisconsin, Zimmerman started his long experience in the pulp and paper industry at Osego, Mich., for the Mac Sim Bar Paper Company.

Cashman Becomes Ensign

Merle Cashman, former personnel and safety supervisor at Port Angeles, Wash., division of Crown Zellerbach Corp., was promoted to the rank of ensign in the U. S. Coast Guard on April 28. He is attached to a beach control unit at Seattle.

His duties at the Port Angeles newsprint mill have been taken over by J. P. "Jim" Phillips. Mr. Cashman had been connected with the Port Angeles mill for ten years.

Powell River Company's New Sulphite Mill Development

By HARRY ANDREWS*

POWELL RIVER COMPANY'S new sulphite plant, recently completed, is one of the finest and most up-to-date installations in the Dominion of Canada. Construction of building and installation of equipment have been underway for some considerable time, but owing to priorities and wartime restrictions, inevitable delays have been encountered. These latest developments were started under permit from the Canadian government in July, 1941, (completed at a cost approaching \$1,500,000.) The design and supervision of the installation of the new unit was under the personal direction of Howard A. Simons, consulting engineer, Chicago.

Associated with Mr. Simons in the sulphite plant construction were Sulphite Superintendent Frank Hamilton and Assistant Superintendent Alan Watson, both of whom have been closely associated with sulphite plants for many years.

The major departure from conventional pulp mill design in this plant has been the incorporation of a large blow chest in which the stock is received directly from three digesters, is continuously agitated and then pumped directly to an acid washer. The complete description of the blow chest is given later in this article.

In keeping with most newsprint mills, the newsprint sulphite plant at Powell River was designed during the days when the newsprint furnish required a considerable percentage of sulphite pulp, but with the reduction in the amount of sulphite used for newsprint purposes, the sulphite plant capacity was greatly beyond requirements. To utilize this extra capacity, and to produce a 50 per cent air-dry sulphite pulp in sheet form, in 1937 a 120-inch Kamy machine was installed. In 1940 the quality was improved; a sales grade sulphite pulp was cooked, a temporary flat screen arrangement was set up, a Flakt dryer was added to provide dry pulp, and further, to allow for compact shipping bales, a 600 ton Southwark hydraulic press was put in.

*Control Superintendent and Research Director, Powell River Company, Powell River, B.C.

Major departure from conventional designs is a large blow chest ✓ ✓ ✓ New acid plant, accumulator and screen room are installed at British Columbia company ✓ ✓ ✓ Accommodations made for future bleaching equipment ✓ ✓ ✓ Pulp quality is improved.



FRANK HAMILTON, Sulphite Superintendent, who is in charge of the new sulphite plant at Powell River Company, Powell River, B. C.

When it became apparent that there would be a large demand for high-grade sulphite pulp as the result of wartime conditions, an investigation was instigated to determine the type of pulp required by the market. As a result, a decision was made to build a new sulphite screen room and bleach plant, which, with changes made in the digester house and the previously installed pulp drying equipment, would result in what amounted to a separate sulphite mill for the purpose of producing a high quality pulp for export sales. A description of this development follows:

Acid Plant

● A completely new concrete burner room, with a new rotary sulphur burner and combustion chamber, was built. The burner, 5 feet 6 inches O.D. x 19 feet 6 inches long, is refractory lined, and will burn sufficient sulphur for the total requirements of the mill. The com-

bustion chamber is also refractory lined, and is 12 feet 6 inches O.D. x 14 feet high. Molten sulphur is pumped from a new concrete melting tank, adjacent to the present sulphur storage building, to a burner by means of a vertical motor-driven centrifugal pump. A recording Hoskins, L.R., pyrometer and a Leeds and Northrup recording sulphur dioxide meter for the proper control of the burner were furnished and conveniently located.

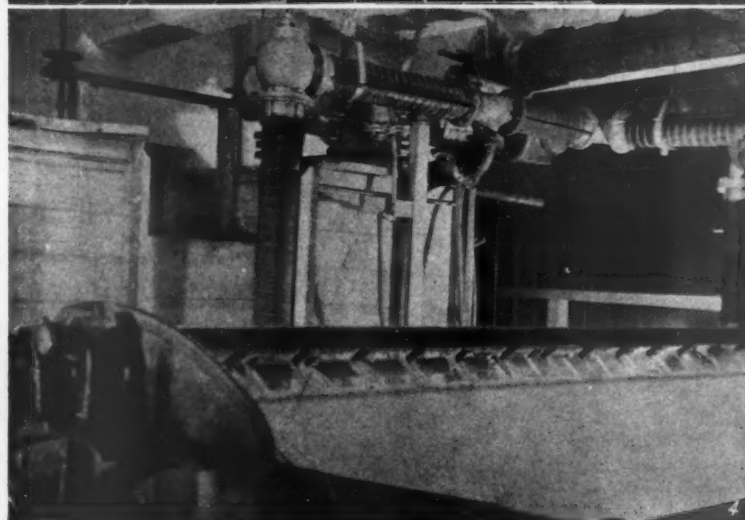
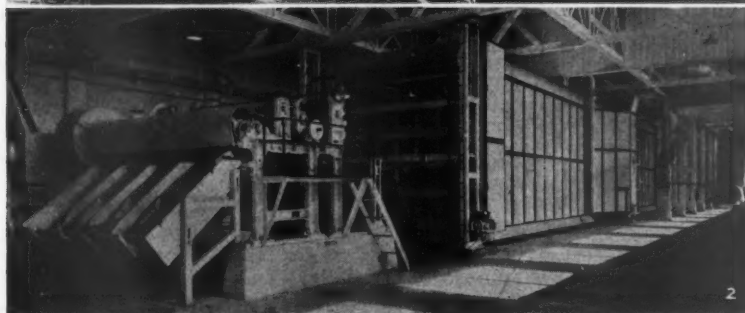
The gas coolers, gas fan, acid towers and sulphur storage, as already in use, were sufficient to take care of the increased requirements.

Chemi-Pulp Accumulator

● For some years, the chemi-pulp system of sulphur dioxide recovery and hot digester acid supply had been in use, utilizing a large digester as an accumulator; accordingly, a new Horton Steel 32 inch spherical accumulator and an accumulator building were added, to release the digester for productive purposes. The new accumulator is situated ad-



ALLAN WATSON, Assistant Sulphite Superintendent, Powell River Company, Powell River, B. C.



jacent to the digester building, and is provided with Foxboro recording instruments for temperature, pressure and liquid level measurements, and these are conveniently located as part of the instruments panelled in the operating floor of the digester building.

Digesters

● The original digester set-up consisted of six digesters, three of 4500 cu. ft., two of 6850 cu. ft. and one of 7800 cu. ft. The three large digesters were allocated to sales purposes, and arranged to blow directly into a common blow-chest. These digesters have been equipped for direct steaming with forced circulation by Electric Steel Foundry of Portland, Ore. Stainless steel bottom fittings and valves were furnished, and the blow lines rearranged to give substantially a horizontal blow.

Blow Chest

● The ordinary blow-pit, with the washing of the stock there, together with the hosing of the stock out of the blow-pit, preliminary to screening, was eliminated, and instead a large agitator chest, lined with brick and plate blocks, was designed to receive the blows from the three sales digesters. This blow-chest was so designed as to hold over two blows, or about 40 tons A.D., at three per cent consistency, and arrangements were made to allow for water being added in measured amounts during the blowing period, so as to facilitate the maintenance of uniformity of consistency. For this purpose a large timber tank on the top of the chest receives white water from the screen room overflow, between blows, and is arranged so as to be full to a pre-determined height at the time of starting the blow. Part of the water is added directly to the blow-line, through a specially designed fitting, and the remainder to a blow-chest; the water is automatically shut off at the end of the blow; Mason-Neilan and Fox-

VIEWS OF INSTALLATIONS AT POWELL RIVER COMPANY, POWELL RIVER, B. C.

- (1) Exterior view of the new sulphite screen room and future bleach plant.
- (2) Flakt Dryer installation and machine room.
- (3) New blow chest, a departure from conventional mill design.
- (4) Stock washer, taking stock from blow chest.

boro recorder-controller instruments are used.

The fitting through which water is admitted to the blow line consists of a tapered jet 14 inches to 12 inches, centrally set inside a 16 inch pipe. The pulp from the digester goes through the jet; the water comes in the space between the jet and the 16 inch pipe proper, and is directed to the pulp stream through the 4 inch annular opening between the tip of the jet and the 16 inch pipe.

The stock is pumped from the blow chest to the screen, where it eventually is evenly washed on a vacuum type washer.

Stock can be pumped from the blow chest to the old N. 6 blow pit, thus securing more storage and blending if desired. However, this is not standard practice, but is for emergency purposes when it is desirable to have some extra storage space.

The advantages ascribed to the blow-chest are as follows:

- A. Improved cleanliness.
 - (1) No high pressure hosing.
 - (2) Less pumping.
- B. Uniformity of consistency.
 - (1) By measured water addition for each blow.
- C. Blending.
- D. Water addition to blow line eases sulphur dioxide nuisance as we do not have a sulphur dioxide recovery system in our vomit stack.

We knew that there was an overall improvement in cleanliness when the new sulphite system started up. It is not possible to say how much each part of the system contributed to the improvement, but it is reasonable to suppose that the blow-chest had some part in it.

Screen Room

● All washing, knotting and screening is provided for here, and all equipment requiring constant attention is arranged on one operating floor so as to be convenient for operation and supervision. The building is also built to house a multistage bleaching operation, but equipment for this section will not be installed until later.

The stock is pumped from the blow chest direct to a 6 ft. x 10 ft. Sherbrooke vacuum type all rubber-lined washer, the discharge passing after dilution direct to knotters consisting of four positive action flat screens arranged in two lines of two sections each. The knotters are equipped with .026 inch cut plates. The accepted stock from the knot-



HOWARD SIMONS, Consulting Engineer, Chicago, who was in charge of construction of the new sulphite plant at Powell River Company, Powell River, B. C.

ters then passes over two 4 ft. x 11 ft. Watrous deckers to two large concrete tile-lined blending tanks holding over 40 tons at 3 per cent. The tailings are discharged to a tank and pumped to refiners for use in newsprint wrapper stock. From the blending tank, stock is pumped to the riffler head box where it is mixed with proportioned amounts of white water and fresh water. The stock then flows over baffle type rifflers and thence by gravity to three lines of four primary screens each, with .008 cut plates, and two lines of four each secondary screens with .008 and .007 cut plates.

The accepted stock is deckered through two Sherbrooke deckers to storage, consisting of two concrete tile-lined chests, and finally pumped to a large storage tank ahead of the drying machine. The overflow from the secondary screens is pumped to the news for further refining and use in news or wrapper. The white water returns to a chest where part is returned for thinning purposes at the rifflers, and part pumped for thinning ahead of the knotters. Water from the deckers after the knotters is pumped for dilution ahead of the washer, and provides dilution water for the blow-chest; also, some of it effluents to the sewer.

The flat screens are the Sherbrooke low type with bronze vat and Dunbar drive, and hold 14 Union chromium-plated plates. Each line of flat screens is separately driven by motor through V belt drives. All

materials in contact with the stock or water are of non-ferrous metals or rubber-lined material. Piping is of wood stave construction and decker vats are of wood. All tanks are divided for ease in handling different grades of stock. Agitation is of the propeller type, direct driven by motor through reduction gears. Exceptionally pure fresh water is obtained from Powell Lake and screened before passing into the system, and fed by gravity into the screen building.

Bristol and Foxboro instruments are provided in the screen room to show the stock level in the blow chest and drying machine chest and all screen room tanks are equipped with level indicators. The deckers are 48-inch x 132-inch, of bronze molds, and bronze fitted; vats are of wood and are double-ended for the discharge of white water.

All through the plant care has been exercised to prevent the stock coming in contact with iron or other dirt-forming material. All materials are corrosion-resistant; water lines are of wood, and fittings rubber-lined.

The blow chest as well as all stock chests and white water tanks were lined by the Stebbins Engineering and Manufacturing Company, Ltd., of Montreal. All chest equipment, flumes, etc., are easily accessible for washing and cleaning. All motors are Canadian General Electric splash proof, and electrical starting equipment of enclosed push-button form.

The screen room is of reinforced concrete construction throughout. The stock tanks are built integral and serve as a foundation and support for the upper floors. The building is entirely closed in and under a slight pressure to prevent infiltration of dirt and soot. The air is all filtered through "American" automatic type air filters, the air being pulled through the filters and heating coils by three Sturtevant fans. The fans provide ventilation and heating and will run the year round. The basement is heated by Aero Fin three-speed type unit heaters.

Improvements

● The new sulphite plant has effected a very noticeable improvement in pulp quality, for the same grade of pulp, over that by the old system, and particularly in the characteristics of brightness and cleanliness. The mill is now running smoothly, and, generally speaking, very satisfactory operating conditions have been secured.



(1) "Workhorses" of the Annual Joint Meeting of Superintendents Association and TAPPI (Pacific Coast sections) at Portland Hotel, Portland, Ore., May 22, 1943. ROBERT M. TRUE, General Dyestuff Corp., Secretary-Treasurer of TAPPI, Pacific Section (on the left), and WILLIAM C. MARSHALL, Pacific Coast Supply Co. They were Co-Chairmen of the meeting.

(2) E. C. SAMMONS, Vice President of Iron Fireman Manufacturing Co., who made the principal address at the Men's Luncheon, presided over by CARL E. BRAUN, Vice President and Manager of Hawley Pulp and Paper Company.

(3) WILLIAM A. KELLY, Waterbury Felt Company representative in Portland, and Former Manager of Mills at Green Bay, Wis., and Oregon City, Ore. (left), who received a complimentary life membership in the American Pulp and Paper Mill Superintendents Association at the luncheon. His brother, ROY H. KELLY, Marathon Paper Mills Co., Rothschild, Wis. (right), came west to make the presentation as official representative of APPMSA.

Superintendents--TAPPI Hold 1943 Joint Meeting

War effort is theme of streamlined one-day conclave
Frampton elected Coast chief of Superintendents with
Salmonson next in line
Technicians' new chairman is
Enghouse, with Ekholm as vice chairman
Quinn goes
east for APPMSA and life membership is given to Bill Kelly
by his brother, Roy.

THE war effort of the Pacific Coast pulp and paper industry—and how it may be stepped up to an even higher pace—was the dominating theme of a streamlined annual 1943 Joint Meeting in Portland, Ore., on May 22 of the Pacific Coast Division, American Pulp & Paper Mill Superintendents Association, and the Pacific section of TAPPI.

Crowded into one day and evening, instead of the usual three, the annual affair was held at the Portland Hotel. It was, in the main, strictly business, definitely in tune with the times. Golf and most of the amusements of gayer years were taboo.

The principal speaker at the men's luncheon, E. C. Sammons, vice president of Iron Fireman Manufacturing Company, discussed the various contributions the industry has made to the war effort and urged further action along this line.

The topic of discussion at the joint technical session—the hydraulic log barking and chipping developments at the Everett, Wash., pulp mill of Weyerhaeuser Timber Company—stressed the savings made by these installations in wood and manpower, two of the most precious wartime resources on the Pacific Coast.

Even the movies were war films, one entitled "Know Your Enemy, Japan."

In the Superintendents and TAPPI's morning business session, streamlined to the necessary business of electing officers and other representatives, plans were made for curtailed activities in the forthcoming year, permitting a more diligent war effort. With this in mind, the Pacific Coast Superintendents decided to withdraw their bid to entertain the national organization in its annual convention in 1944 in a west coast city.

The committee in charge of the Joint Meeting consisted of Austin Nickels, chairman; C. A. Enghouse, A. S. Quinn, W. C. Marshall, R. M. True, C. E. Braun, M. E. Norwood, E. P. Wood and H. H. Richmond.

A total of 114 registered in the Gold Room, of which 79 were men and 35 women. W. C. Marshall, Pacific Coast Supply Company, Portland, was in charge of registration.

The Superintendents met in a third floor suite and the TAPPI members held a simultaneous session in the Rose Room.

Superintendents' Meeting

● Merrill E. Norwood, night superintendent, St. Helens Pulp & Paper Co., St. Helens, Ore., the retiring chairman of the Pacific Division, presided at the Superintendents' session.

New officers elected for the forthcoming year were:

Chairman—Charles G. Frampton, superintendent, Fernstrom Paper Mills, Inc., Pomona, Calif.; First Vice Chairman—Sam A. Salmonson, assistant superintendent, Soundview Pulp Co., Everett, Wash.; Second Vice Chairman—Charles E. Ackley, superintendent, Crown Willamette Paper Company, division of Crown Zellerbach Corp., Lebanon, Ore.; Secretary-Treasurer—A. S. Quinn, vice president, Stebbins Engineering Corp., Seattle.

Mr. Quinn thus began his seventh successive one-year term in that office. He also was unanimously elected to be the official delegate of the Pacific Division to the 24th annual convention of the APPMSA June 15-17 at the Commodore Hotel, New York City. Mr. Quinn later said he planned leaving for New York June 9 and probably would be in the east about two weeks.

H. A. Des Marais, General Dyestuff Corp., San Francisco, and Norman Lewthwaite, pulp mill superintendent, National Paper Products Company, division of Crown Zellerbach Corp., Port Townsend, Wash., were reelected to the Pacific Division's Finance Committee.

TAPPI Session

● Ed P. Wood, technical director, Longview, Wash., mill of the Pulp Division, Weyerhaeuser Timber Company, retiring Chairman, presided at the TAPPI session.

In order of succession, Clarence A. Enghouse, assistant resident manager, Crown Willamette Paper Company, division of Crown Zellerbach Corp., West Linn, Ore., advanced from Vice Chairman to Chairman of the Pacific Section.

Erik Ekholm, general superintendent, Puget Sound Pulp & Timber Company, Bellingham, Wash., was elected the new Vice Chairman, one of whose duties is to direct arrangements of programs for the year. Robert M. True, General Dyestuff Corp., was reelected Secretary-Treasurer.

Elected as new member of the Executive Committee was W. F. "Doc" Holzer, research department, Central Technical Department, Crown Zellerbach Corp., Camas, Wash. There are four other members on the Executive Committee for the forthcoming year—the three officers and the retired Chairman of 1942-3, Mr. Wood.

Men's Luncheon

● The men's luncheon in the Grill Room was presided over by Carl E. Braun, vice president and mill manager of Hawley Pulp & Paper Company, Oregon City, Ore. Sixty-four attended.

Dr. Harold Hibbert, recently retired professor of chemistry at McGill University, Montreal, an internationally known authority on wood chemistry who was on a visit to the Pacific Coast, was introduced and made a brief talk expressing his interest in wood uses developments on the Pacific Coast.

Roy H. Kelly, superintendent, Marathan Paper Mills, Rothschild, Wis., acting as official envoy of the national superintendent's organization, presented a complimentary life membership in the APPMSA to his brother, W. A. "Bill" Kelly, representative of Waterbury Felt Company in Portland, Ore., a former veteran mill manager and superintendent. Both Kelleys have long been active in the superintendents' affairs.

In introducing the brother who made the trip west for the presenta-

1943-1944 Officers Pacific Coast Division American Pulp & Paper Mill Superintendents Association



(Upper left) CHAIRMAN—CHARLES G. FRAMPTON, Superintendent Fernstrom Paper Mills Inc., Pomona, Calif.

(Upper right) FIRST VICE CHAIRMAN—SAM A. SALMONSON, Assistant Superintendent, Soundview Pulp Company, Everett, Wash.

(Lower left) SECOND VICE CHAIRMAN—CHARLES E. ACKLEY, Superintendent, Crown Willamette Paper Company, Division of Crown Zellerbach Corporation, Lebanon, Ore.

(Lower right) SECRETARY-TREASURER—ALBERT S. QUINN, Vice President, Stebbins Engineering Corporation, Seattle.

tion, Mr. Braun said "Roy, we feel you are one of us out here."

Roy Kelly told how his brother began his career in the Oconto Falls, Wis., mill of the Falls Manufacturing Company, in 1901, and how he, Roy, went to work in the same mill

five years later. His brother, Bill, he said, began running a paper machine at Oconto Falls, Wis., and held many important mill positions after that, moving to the west coast in 1928.

"When I saw the beginnings of the

Superintendents Association in central Wisconsin a quarter of a century ago," said Mr. W. A. Kelly, in response, "I never dreamed the organization would grow so big or that I would some day be given a life membership."

Following is a record of his career in mill work:

1891—Screen boy at Oconto Falls, Wis., during vacation.

1891-7—Roll skinner, helper in digester room, acid room and wood room, oiler, during vacations.

1897-1901—Started full time as screen boy, worked up to machine tender.

1901—Machine tender for Petoskey Fibre Company, Petoskey, Mich.

1903—Day foreman, J. & J. Rogers, AuSable Forks, N. Y.

1904—Machine tender, old Gibson mill, Kalamazoo, Mich.

1904-09—Day foreman, Munising Paper Company, Munising, Mich.

1909—Night foreman, Halifax Paper Co., Roanoke Rapids, N. C.

1910—Tour boss, Cherry River Paper Company, Richwood, W. Va.

1910-20—Day foreman, later paper mill superintendent and finally, general superintendent, Marathon



W. F. HOLZER, Research Department, Central Technical Department, Crown Zellerbach Corp., Camas, Wash., was elected a new member of the Executive Committee of TAPPI, Pacific Coast Section.

Paper Mills Co., Rothschild, Wis.

1920-28—Mill manager, Northern Paper Mills, Green Bay, Wis.

1928-32—General manager, Hawley Pulp & Paper Co., Oregon City, Ore.

Mr. Sammons' Address

● Mr. Sammons, in the principal address at the luncheon, recalled the beginnings of the machine shop war work program undertaken April 23, 1942 by 26 mills in Pacific Coast Association of Pulp & Paper Manufacturers. He described the steadily increasing tempo of this work in producing and finishing vital parts for warships, cargo ships and war industries as "a wonderful effort."

Speaking from experience as an artillery officer in the last war and as executive of an important war industry in this one—an industry which has sub-contracted much work to the pulp and paper mill machine shops—Mr. Sammons said the United Nations will win when we "pour more metal on an enemy than the enemy can pour on us."

He praised the role of the machine shops in helping to make this possible and also the other wartime activities of the industry.

"Your industry is rated as essential and well it might be," he said, in noting the important production of nitrating pulp for gunpowder, of rayon pulp for war essentials and of lightweight paperboard containers which make less cargo ships and cargo planes necessary by saving weight and space.

He recalled that a shipping bottleneck had hampered American war efforts but said this is now broken, thanks to a large degree to the activities of the pulp and paper mills as well as other industries. He quoted astronomical figures on the rising course of war production in this country and spoke optimistically of the trend of the war.

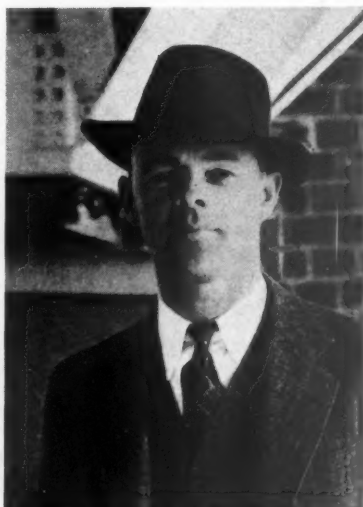
Mr. Sammons, quoting Kipling, said what wins wars are not guns and soldiers alone "but the everlasting teamwork of every blooming soul." He concluded with the traditional laconic U. S. Navy signal of congratulation to its skippers, as his tribute to the men in his audience—"Well done."

Preceding the speeches, Mr. Braun introduced others seated at the head table, namely, Messrs. Enghouse, Ackley, Nickels, Wood, Salmonson, Norwood, Quinn and Des Marais; Robert Misphey, assistant technical director, Crown Zellerbach Corp., Camas; Gerald F. Alcorn, plant engineer, Pulp Division, Weyerhaeuser Timber Company, Everett, Wash., and J. H. Loomis, Calco Chemical Division, American Cyanamid Company, New York City.

New Chairman and Vice Chairman Of TAPPI, Pacific Coast Section



(Left) **CHAIRMAN—CLARENCE A. ENGHOUSE**, Assistant Resident Manager, Crown Willamette Paper Company, Division of Crown Zellerbach Corporation, West Linn, Ore.



(Right) **VICE CHAIRMAN—ERIK EKHOLM**, General Superintendent, Puget Sound Pulp & Timber Company, Bellingham, Wash.

ROBERT M. TRUE, General Dyestuff Corporation, Portland, Ore., representative, re-elected Secretary-Treasurer, appears in other pictures in this issue.

Joint Technical Session

● The Joint Technical Session was held in the Rose Room under the chairmanship of E. P. Wood, technical director at the Weyerhaeuser Timber Company's Longview pulp mill.

"Hydraulic Log Barking and Log Chipping Developments at the Pulp Division, Weyerhaeuser Timber Company, Everett Mill" was presented by Gerald F. Alcorn, the Everett plant engineer. A complete description of these developments, with numerous illustrations, were published on pages 26-36 inclusive, in the 1943 Annual May Review Number of **PACIFIC PULP & PAPER INDUSTRY**.

Mr. Alcorn in his talk covered the important wood and manpower savings of the new installations, which aid the war effort. He stressed that the hydraulic barker will do any kind of log. Although designed for large hemlock logs, he said it has barked two or three small logs at one time.

Replying to questions, Mr. Alcorn said the company is still working on the traveling nozzles for the barker. Although they now do a highly satisfactory job, he said, it is hoped they may be even more improved.

L. M. "Bud" Johnson, engineer at the Everett mill, assisted Mr. Alcorn in the presentation. He discussed the nozzle carriage mechanism for the barker and answered questions regarding this mechanism.

A picture story of the new installations was presented. The meeting concluded with two movies presented by courtesy of Standard Oil Company on Japanese activities in Asia and the Tunisian war front campaign.

Dinner Party

● "Gob" Des Marais presided at the dinner party in the evening in the Grill Room.

He announced the winning of the Shibley Award for the best paper presented at TAPPI meetings during the year 1942-3 by Robert A. Baum, assistant chief chemist, Fernstrom Paper Mills, Inc., Pomona, Calif. Mr. Baum, who had come north to present his prize-winning paper, "The Effect of Alum Flocc on Pulp Strength Development" at the March 2 dinner meeting of TAPPI in Portland, was unable to make another trip so soon afterward to receive his honors.

Mr. Des Marais announced later that he would visit the Pomona mill

on June 15 to make the presentation there.

Mr. Baum's paper was to be presented a second time by him at the June 17 meeting of the Paper Makers and Associates of Southern California in Los Angeles. Many paper mill chemists have since confirmed Mr. Baum's findings and his paper seems to indicate a new field in which heretofore unexplained strength losses may be partially accounted for.

Mr. Des Marais introduced guests seated at the head table at the dinner. These were Dr. Hibbert, Mr. Enghouse, Mr. Loomis, Mr. Wood, Mr. and Mrs. Nickels, Mr. Roy Kelly, Mr. and Mrs. W. A. Kelly, Mr. and Mrs. Braun, Mr. and Mrs. Salmonson and Mr. and Mrs. Ackley. He also introduced Mr. and Mrs. Quinn, who were not at the head table, as a compliment to Mr. Quinn's efforts in making the meeting a success in behalf of the Superintendents.

Mr. Enghouse then introduced in behalf of TAPPI other men who had helped in arrangements and their wives. These couples, who also were not seated at the head table, were Mr. and Mrs. True, Mr. and Mrs. Richmond and Mr. and Mrs. Marshall. Dancing to Joe Sampietro's music followed the brief dinner ceremonies.

Thus ended a much abbreviated and more serious-toned Annual Joint Meeting than had ever been held before by the Pacific sections of the two outstanding pulp and paper mill organizations.

It was possible to hold the Joint Meeting under wartime conditions only because of the cooperation of the Portland Hotel management, according to officers of the two organizations. As a result of this cooperation and well-laid plans of the committees, everything went off smoothly.

Figuratively thumbing their noses at Hitler and Hirohito, the men and women in attendance gladly ate fish and chicken at their principal meals of the day and evening and they returned to their homes Saturday night and Sunday, pronouncing the affair a complete success.

Registration List

Those who registered at the joint TAPPI-Superintendents meeting in Portland May 22 were:

Mr. and Mrs. C. E. Ackley, Crown Willamette Paper Co., Division of Crown Zellerbach Corp., Lebanon, Ore.; Mr. and Mrs. B. J. Adleman, Link-Belt Co., Portland; G. F. Al-

Award Winner



ROBERT A. BAUM, Assistant Chief Chemist, Fernstrom Paper Mills, Inc., Pomona, Calif., was announced the winner of TAPPI's Shibley Award at the Pacific Coast Joint Meeting of TAPPI and the American Pulp & Paper Mill Superintendents Association on May 22 in Portland. He was adjudged to have presented paper at Coast TAPPI meetings during the preceding year. His paper was "The Effect of Alum Flocc on Pulp Strength Development."

corn, Pulp Division Weyerhaeuser Timber Co., Everett, Wash.; James W. Allender, Hawley Pulp & Paper Co., Oregon City, Ore.; Betty S. Allender, Hawley Pulp & Paper Co., Oregon City; Mr. and Mrs. Fred Armbruster, Great Western Division, The Dow Chemical Co., Seattle; Mr. and Mrs. E. R. Barrett, O. A. Smith Corp., Seattle.

Mr. and Mrs. Carl E. Braun, Hawley Pulp & Paper Co., Oregon City; Martin Breuer, E. I. du Pont de Nemours & Co., San Francisco; Mr. and Mrs. Roy Carey, National Aniline Division Allied Chemical & Dye Corp., Portland; Sidney Collier, Puget Sound Pulp & Timber Co., Bellingham, Wash.; J. V. B. Cox, Hercules Powder Co., Portland; H. M. Daniels, Simonds Saw & Steel Co., Portland; H. A. Des Marais, General Dyestuff Corp., San Francisco; R. E. Drane, St. Helens Pulp & Paper Co., St. Helens, Ore.; Alex Duncan, Hercules Powder Co., Portland.

C. A. Enghouse, Crown Willamette Paper Co., Division of Crown Zellerbach Corporation, West Linn, Ore.; E. O. Ericsson, Puget Sound Pulp & Timber Co., Bellingham; B. W. Farnes, R. E. Chase & Co., Portland; Joseph Foley, Hawley Pulp & Paper Co., Oregon City; Harry Fromong, Hawley Pulp & Paper Co., Oregon City; Mr. and Mrs. G. H.



A DISCUSSION of Log Barking and Chipping Developments at the Everett mill, Pulp Division, Weyerhaeuser Timber Company, was given at the Superintendents-TAPPI Coast Meeting by GERALD F. ALCORN, Plant Engineer, Everett mill. On the black board he made rough drawings of the hydraulic barker nozzle.



L. M. "BUD" JOHNSON (left) Engineer, Everett mill, Pulp Division, Weyerhaeuser Timber Company, answered questions regarding the nozzle drive.

L. R. "SPUD" HARTMAN (right) wood room superintendent at the Everett mill, came along to give Messrs. ALCORN and JOHNSON "moral support." He knows about that barker, too.



GEORGE SPENCER, Sawmill Superintendent at Hawley Pulp & Paper Company, Oregon City, the oldest mill man at the meeting, came up to the black board to have a closer look at the rough drawing of a log in the barker, shown to his left.



ERIC ERICSSON (left), Chief Chemist, Puget Sound Pulp & Timber Company, Bellingham, Wash., wanted to know "what's new in wood cleaning?" Another interested listener at Portland (at his right): JAMES A. WILSON, Assistant Mill Manager, Hawley Pulp & Paper Company. "At last we are getting out logs on the Willamette—it's a pleasant change after the past winter," he said.



C. V. SMITH (left), Superintendent, Electric Steam and Power Plant, St. Helens Pulp & Paper Company, St. Helens, Ore. (left), who said: "We've trained some A-1 women electricians at our mill."

THOMAS GRANT (right), Sulphite Superintendent, Columbia River Paper Mills, Vancouver, B. C.: "Our sulphite papers are doing a good war job preserving foods for shipment."



H. A. "GOB" DES MARAIS (left), General Dyestuff Corp., San Francisco, presided at the Dinner. "I would gladly dye for you," says Gob.

JOHN F. HART (right), Chemist, Longview Fibre Company, Longview, Wash. (right); "Uncle Sam wants Kraft paper; we can't make too much of it today."



ED TIDLAND (left), Manager, Pacific Coast Supply Company, Portland, commented: "The mills are doing important war jobs."

His arm is around the shoulder of J. H. "JACK" LOOMIS, Manager of Heller & Merz Department, American Cyanamid Company, Calco Chemical Division, New York City, farthest traveling registrant, who crossed the continent: "Believe me, it's great to get out west!"

Galloway, Crown Willamette Paper Co., Division of Crown Zellerbach Corp., Camas, Wash.; Mr. and Mrs. Irving Gard, Merick Sales Mfg. Co., Seattle; J. E. Garrison, American Cyanamid Co., Seattle; Mr. and Mrs. Joe Gorman, St. Helens Pulp & Paper Co., St. Helens, Ore.; Mr. and Mrs. Gould, Electric Steel Foundry Co., Portland; C. H. Graham, Bumstead Woolford Co., Portland.

Thomas Grant, Columbia River Paper Mills, Vancouver, Wash.; George G. Guild, Huntington Rubber Mills, Seattle; Mr. and Mrs. H. A. Gunhus, Simonds Saw & Steel Co., Portland; Mr. and Mrs. John F. Hart, Longview Fibre Co., Longview, Wash.; L. R. Hartman, Pulp Division Weyerhaeuser Timber Co., Everett; Mr. and Mrs. John Haugerod, Crown Willamette Paper Co., Division of Crown Zellerbach Corp., West Linn, Ore.; H. R. Heuer, Pulp Division Weyerhaeuser Timber Co., Longview, Wash.; Mr. and Mrs. Chas. Herschbuel, Monarch Forge & Mach. Works, Portland.

Mr. and Mrs. H. F. Hoehne, Longview Fibre Co., Longview; Mr. and Mrs. F. J. Hoffman, Hydraulic Supply Co., Seattle; J. Hollander, Hawley Pulp & Paper Co., Oregon City; Dr. H. Hibbert, McGill University, Montreal; O. L. Hudrlik, The Flox Co., Portland; J. B. Hyde, Crown Willamette Paper Co., Division Crown Zellerbach Corp., Camas; L. T. Johnson, Hawley Pulp & Paper Co., Oregon City; Lester M. Johnson, Pulp Division Weyerhaeuser Timber Co., Everett, Wash.

Mr. and Mrs. W. A. "Bill" Kelly, Waterbury Felt Co., Portland; R. H. Kelly, Marathon Paper Mills, Rothschild, Wis.; Harold Lange, Cellulose Products Co., Tacoma, Wash.; Mr. and Mrs. K. Linehan, Crown Willamette Paper Co., Division of Crown Zellerbach Corp., Camas; Mr. and Mrs. J. G. Long, Fir-Tex Insulating Co., St. Helens; J. H. Loomis, Calco Chemical Division, American Cyanamid Co., New York City; Mr. and Mrs. W. C. Marshall, Pacific Coast Supply Co., Portland; R. W. Martig, Brown Instrument Co., Portland.

Mr. and Mrs. R. H. Misphey, Crown Willamette Paper Co., Division of Crown Zellerbach Corp., Camas; T. E. Moffitt, Hooker Electrochemical Co., Tacoma; C. W. Morden, Morden Machines Co., Portland; Leonard McMaster, Asten-

Hill Mfg. Co., Portland; Mr. and Mrs. C. J. McAllister, Simonds-Worden-White Co., Portland; M. E. Norwood, St. Helens Pulp & Paper Co., St. Helens; Mr. and Mrs. Austin Nickels, Hawley Pulp & Paper Co., Oregon City; Gordon Petrie, Longview Fibre Co., Longview; Mrs. R. T. Petrie, Black-Clawson Co., Portland.

Mr. and Mrs. A. S. Quinn, Stebbins Engineering Corp., Seattle; Thelma Rayno, Crown Zellerbach Corp., Portland; C. E. Rozema, Resinous Products Co., Portland; Mr. and Mrs. Harry H. Richmond, Electric Steel Foundry Co., Portland; B. L. Shera, Pennsylvania Salt Mfg. Co. of Washington, Tacoma; E. C. Sammons, Iron Fireman Mfg. Co., Portland; Mr. and Mrs. D. L. Shirley and Miss Shirley, Link-Belt Co., Portland.

Mr. and Mrs. C. Sholdebrand, Hawley Pulp & Paper Co., Oregon City; Ernest Schweitz, Hawley Pulp & Paper Co., Oregon City; S. A. Salmonson, Soundview Pulp Co., Everett; Lawrence K. Smith, Pacific Pulp & Paper Industry, Seattle; C. V. Smith, St. Helens Pulp & Paper Co., St. Helens; Mr. and Mrs. W. A. Salmonson, Simonds-Worden-White Co., Seattle; E. H. Tidland, Pacific Coast Supply Co., Portland.

Mr. and Mrs. R. True, General Dyestuff Corp., Portland; L. H. Wear, Taylor Instrument Companies, Portland; Fred Weleber, Hawley Pulp & Paper Co., Oregon City; James A. Wilson, Hawley Pulp & Paper Co., Oregon City; Albert Wilson, Pacific Pulp & Paper Industry, Seattle; Mr. and Mrs. F. Williams, Crown Willamette Paper Co., Division of Crown Zellerbach Corp., Camas; E. P. Wood, Pulp Division Weyerhaeuser Timber Co., Longview; Mr. and Mrs. Herb Wymore, Crown Willamette Paper Co., Division of Crown Zellerbach Corp., Camas, and Zina A. Wise, Griffith Rubber Mills, Portland.

Inland Empire Mill Aided by Paper Salvage

To help the Inland Empire Company paper mill of Millwood, Wash., meet production demands, a Spokane city salvage committee recently conducted a campaign to collect waste paper for manufacturing material. The campaign was conducted through the schools and families were urged to turn over old newspapers and magazines to the children.

174 Women at Hawley

A total of 174 women are now employed at the Oregon City plant of the Hawley Pulp and Paper Company and the number is growing steadily.

JOSEPH P. FOLEY (left), and AUSTIN NICKELS, both from Hawley Pulp & Paper Company, Oregon City, Ore., are interested participants here in the meeting of Pacific Coast division of the Superintendents Association. MR. NICKELS, General Superintendent at the Hawley mill, was Acting Chairman of the Joint Meeting of TAPPI and Superintendents.

J. G. LONG (left), Production Manager and Chief Chemist, Fir-Tex Insulating Board Company, St. Helens, Oregon and JAN HAUGEROD, Sulphite Mill Foreman, West Linn, Ore., mill of Crown Zellerbach Corporation, have "some words" over chemical processes.

MRS. HARRIET VETTER (left), and MISS DOROTHY WILBUR, of the Pacific Coast Supply Company, Portland, were Registrars at the Joint Meeting.

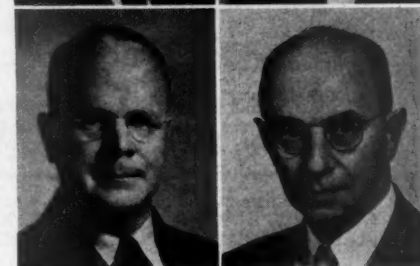
BRIAN SHERA (left), Pennsylvania Salt Manufacturing Company of Washington, Tacoma, Wash., registering a happy smile over that Army-Navy E for Penn Salt.

WALTER JACOBY (right), Assistant Technical Supervisor, Crown Willamette Paper Company, Division of Crown Zellerbach Corp., Camas, Wash. New wartime uses for paper are of interest to him.

LEONARD McMASTERS (left), representative of Asten-Hill Manufacturing Company and Orr Felt & Blanket Company, boasted about his strawberry barrel. With him is MARTIN BREUER, E. I. DuPont de Nemours & Company, San Francisco, who "dyes" for a living.

CARL E. BRAUN (left), Vice President and Mill Manager, Hawley Pulp & Paper Company, Oregon City, presided at the luncheon. "We feel you are one of us out here," he said, introducing ROY KELLY, APPMSA envoy from national organization. TOM MOFFITT (right), Hooker Electrochemical Company, Tacoma.

Present for brief get-togethers were C. W. MORDEN (left), President, Morden Machines, Co., Portland, and HARRY H. RICHMOND, Chief Engineer, Electric Steel Foundry Company, Portland. "War work of the mills' machine shops showed ingenuity and resourcefulness," said Mr. RICHMOND, who gave the shops a helping hand.



Rayonier's Tacoma Mill Is Sold and Dismantled

● Rayonier Incorporated, with headquarters at 343 Sansome Street, San Francisco, sold its abandoned Tacoma, Wash., plant to the Bagley and Sewall Company of Watertown, N. Y., last April.

This plant produced about 150 tons per day of unbleached sulphite pulp that was finally processed at Rayonier's Shelton, Wash., mill.

The abandonment followed the shutdown of the Tacoma plant in November, 1942, because of allocation by the War Production Board, under its order No. M-251 covering logs used in pulp manufacture.

The Bagley and Sewall Company has a representative in Tacoma supervising the dismantling of the plant and disposal of equipment.



THE CLOSED MILL OF THE TACOMA DIVISION OF RAYONIER INCORPORATED. After 15 years' operation as a sulphite pulp mill it has been closed and dismantled as a sequel to the WBP order last fall which, in effect, denied the operation any further supply of logs.

The Tacoma plant was first opened as a sulphite pulp mill in December, 1928, under ownership of the Shaffer Pulp Company. Prior to that date the Shaffer Company had manufactured box shooks at the site.

On September 1, 1936, the Tacoma mill became the property of the Rainier Pulp & Paper Company of Shelton, one of the firms later consolidated as Rayonier Incorporated, and continued to operate as a sulphite pulp mill.

Wage Conference Recessed Until July

● The annual wage conference of the Pacific Coast Pulp and Paper Manufacturers Association and organized workers under the uniform labor agreement was recessed at Portland, Ore., on the afternoon of June 5 after being in session for five days, and will resume late in July. The recess was jointly decided upon because of the need for further study of some elements under discussion.

It was mutually agreed that the present contract will continue in full force and effect in the meantime. Any wage adjustments finally agreed to will be made retroactive to June 1, 1943, if given approval by the War Labor Board. It was agreed that the employers would join with the signatory unions in presenting a request for any increase to the War Labor Board.

Soundview Employees Receive Minute Man Flag



THROUGH THE COOPERATIVE EFFORTS OF A LABOR-MANAGEMENT COMMITTEE, about 93 per cent of the employees of the Soundview Pulp Company of Everett, Wash., are purchasing war bonds under the payroll deduction plan. A Minute Man Flag was presented to the employees for their achievement.

One photograph above shows the committee and the other, the bulletin board report on the campaign.

The Committee, from left to right, are: ARTHUR NASH, DARRELL GELLUSON, LOUIS BOHNSTEDT, WILLIAM GORBETT, BERT NELSON, BOB MINNEHAN, S. A. SALMONSON (Asst. Supt.), NORMAN HEGLUND, JOE O'BRIEN, JOHNNIE JOHNSON, BARNEY HUGHES, DODE HUTCHINSON, GORDON IRVINE and CARL PEDIGO.

New Papermakers & Associates Officers Begin 1943-1944 Term

William A. Kinney, elected Chairman to succeed Charles G. Frampton, appeals to members to carry on in difficult war period . . . W. T. Tillotson and John Van Ounsem chosen as officers at meeting in Los Angeles.

● In beginning his term as the new 1943-1944 chairman of the Papermakers and Associates of Southern California, William A. Kinney, production manager, Pioneer Division, the Flintkote Company, Los Angeles, appealed to all members for their cooperation as the organization faced a difficult year ahead under wartime conditions.

Mr. Kinney, who was program chairman of PASC during the last year, was elected to succeed Charles G. Frampton, superintendent, Fernstrom Paper Mills, Inc., Pomona, Calif., as chairman at the annual election dinner meeting, held at the Clark Hotel, Los Angeles, April 15. Just five weeks later, Mr. Frampton took over new duties with his election in Portland, Ore., as the new chairman of the Pacific Coast Division, American Pulp & Paper Mill Superintendents Association.

Chosen as vice president of PASC was W. T. "Hap" Tillotson, roof and paper department manager, United States Gypsum Company.

John Van Ounsem, technical director, The Flintkote Company, succeeded R. S. Buckley, chief chemist, Fernstrom Paper Mills, Inc., as secretary-treasurer.

Kenneth Bearss and Gordon Halvorsen were placed on the executive committee.

Forty-five members and guests attended the Los Angeles affair which had, as speaker of the evening the consulting engineer and organizer of PASC, Herman L. Joachim. His subject, "Industrial Double Life of Cellulose," dealt with rayon and plastics. Mr. Joachim delayed an urgent trip east to deliver his paper.

Supplementing the evening's scheduled features, the meeting was further highlighted by an "added attraction." Archie Scharwtz raised a question which evoked a considerable amount of good-natured discussion. He contended that perhaps the association was drifting away from its original purpose which, he said, was based on round table discussion.

Chairman Frampton declared the PASC meetings were always open to members and, provided subjects offered for presentation were of general interest to them, these should be welcomed. Mr. Joachim, founder of the organization, quoted from the by-laws to show it was an original purpose of PASC to improve relationships within the industry and allied interests, and to promote good fellowship.

The chairman stressed the importance and value of associate mem-

berships from an educational standpoint. Robert A. Baum, chairman, education committee, who has never missed a meeting of PASC, expressed the opinion that promotion was necessary to stimulate interest.

Membership Declines

Speaking on the physical state of PASC, Secretary Buckley told the meeting that although last year's list showed 97 members, the current roster boasted only 62. He blamed the uncertainty of the times and the induction of many into the

PASC Elects Officers



(1) R. S. BUCKLEY, retiring Secretary-Treasurer, about to read the minutes for the last time. On his left, his successor, JOHN VAN OUNSEM and Mr. HERMAN L. JOACHIM, founder of PASC, who was the principal speaker at the election meeting in Los Angeles, April 15.

(2) (Left to right) WALTER R. DILLEY, GROVER BROWN and PAUL WAPLES, at the dinner meeting.

(3) WILLIAM A. KINNEY (left) new Chairman of PASC, receives congratulations from his predecessor, CHARLES G. FRAMPTON.

(4) The new PASC Officers: (Left to right) MR. KINNEY, Chairman; W. T. TILLOTSON, Vice President; Mr. VAN OUNSEM, Secretary-Treasurer; KENNETH BEARSS and GORDON HALVORSON of the Executive Committee.

armed services for a decrease of 35 members in the roster.

Upon his unanimous election to serve as chairman during the coming year, Mr. Kinney thanked the members who served with him during the past year on the program committee: Ray C. Sparling, Mr. Tillotson, Otto Sass, George F. Ford and Paul A. Armstrong.

"Every member of PASC is essential to the officers during the coming year," he declared. "We must have you as helpers. Officers can do little without wholehearted cooperation of the members and I ask all to pledge consistent attendance at meetings."

A. M. Smith Missing In Tunis Campaign

Lt. A. M. Smith, formerly of the logging department of Hawley Pulp and Paper Company, Oregon City, Ore., has been reported missing in action in the Tunisian campaign. He is the only casualty among the 180 former employees of this organization who are now in the armed services.

Elected Trustee

Ralph M. Roberg, of the Puget Sound Pulp and Timber Company, has been elected to the board of trustees of the Manufacturers' Association of Washington.

Quigley In California

Harold Quigley, paper mill superintendent at Crown Zellerbach Corporation, Port Townsend, Wash., division, went to Grass Valley, Calif., recently with his wife and two children. The vacation trip was for his health and he planned a stay of several weeks. During his absence, Jack Davis is pinch-hitting for him as acting paper mill superintendent.

Mr. Quigley has been at the Port Townsend mill since it opened in 1928, coming there as boss machine tender.



HAROLD QUIGLEY, Paper Mill Superintendent, Crown Zellerbach Corp., Port Townsend, Wash., Division, is in California on a trip for his health.

Frank H. Wheelock, member of the by-laws committee, paid a tribute to Retiring Chairman Frampton. He said: "When the sudden death of our head, U. Grant Farmer, left us without a leader, Charles Frampton took over as chairman, and he has done a swell job." A rising vote of thanks was accorded Mr. Frampton.

Attendance

Members and guests present at the meeting were:

Archie Schwartz, G. F. Rucker, Lloyd I. Ramsey, H. L. Joachim, C. G. Frampton, Geo. M. Cunningham, Richard Pomeroy.

Pacific Coast Paper Mills Cleared In Trade Mark Case

● The Pacific Coast Paper Mills of Washington, Inc., of Bellingham, received a communication on June 1 from the Federal Trade Commission announcing the complete dismissal of the two-year-old complaint against the company's trade-mark "M.D."

This trade-mark, with an illustration of a nurse's head and a cross, had been used for about twelve years on the tissue and sanitary napkins produced by the Bellingham firm. It is well known in the trade and any forced change might have greatly handicapped the company.

The government's contention was that use of the trade-mark implied medical and dental endorsement, but after a review of the case, this was dismissed. After long drawn-out consideration this action now means that Pacific Coast Paper Mills is entirely in the clear in continuing to use the label in the manner in which it is presently employed.

Oberdorfer In Louisiana

Max Oberdorfer, Jr., plant engineer of the St. Helens Pulp & Paper Company, St. Helens, Ore., inducted recently into the U. S. Army, has been sent to New Orleans duty. Some months ago, in an endeavor to get into the service, he underwent a hernia operation.

His present address is:
Pvt. Max R. Oberdorfer, ASN 39331207, C. "A" First Battalion, TCRTC-UOSA, New Orleans, La.

Dam Progressing

New construction on the Portland General Electric Company's dam at Oregon City, Ore., south of the Hawley Pulp and Paper Company's plant, is progressing rapidly. The pouring of concrete will begin in the relatively near future. The dam was destroyed in the Jan. 1 flood.

St. Helens Co. Matches

Employees' \$1100 Donation

● With the company matching dollar for dollar, the employees of the St. Helens Pulp and Paper Company at St. Helens, Ore., contributed over \$1100 to the Columbia County Red Cross drive.

The \$2200 which came from this organization was more than one quarter of the quota set up for Columbia County, said Irving Rau, secretary of the company and chairman of the finance committee of the executive committee of the county Red Cross organization.

John Van Ounsen, Bruce Brown Jr., G. G. Halvorsen, J. E. Hartford, Dick Schmidt, Bill Moore, G. A. Brown.

Richard Buckley, Frank Dilley, A. R. Bollaert, T. D. Howell, Elmore Lemire, H. D. Kirschman, K. Bearss.

Wm. R. Monette, Wm. Belleman, E. G. Swanberg, Robert A. Baum, Glen Phillips, A. M. Turner.

John Herbert, Hap Tillotson, F. W. Adams, Otto Sass, Frank Wheelock, Parke Math, Arthur Ponsford and Joe King.

Pacific Mills, Ltd., Gives 126 to Armed Services

Ocean Falls, B. C.
May 30, 1943

Pacific Pulp & Paper Industry,
71 Columbia St.,
Seattle, Wn.

Dear Sirs:

In reading through your magazine at my father's home, I notice you did not have any word about the Ocean Falls boys (Pacific Mills, Ltd.) in service. So have taken the liberty of sending you this information.

There are 125 boys, and one woman in the Allied service to date from Ocean Falls.

We have a population of almost two thousand here in Ocean Falls, B. C.

One boy lost his life out of this number. He was Lieutenant Clifton Paul Kelley, in the United States Army Air Force. He died Sept. 3, 1942, in an air plane accident in Hawaii.

He was the son of Mr. and Mrs. C. P. Kelley (Mr. Kelley is paper mill superintendent at Ocean Falls). Mr. and Mrs. Kelley have another son, Casimir E. Kelley, in the Canadian Navy.

Yours truly,
Mrs. Ivor Williams.

Ed. note—A report on the number of men and women in armed services from British Columbia mills was published in the April issue of PACIFIC PULP & PAPER INDUSTRY. This was a Canadian tabulation and Pacific Mills, Ltd., Ocean Falls, had up to that time made no report and therefore was not included. In all, more than 6,000 men and women from Canadian pulp and paper mills have gone into armed services and auxiliaries.

Corn Starch Crisis Hits Middle West

● As this issue went to press, three of eleven corn processing plants in this country were shut down as an indirect result of the disastrous Middle West floods. Others averaged only a week's supply of corn ahead.

Supplies of starches for V-board containers and other vital war products made in Pacific Coast pulp mills were imperiled. Industry authorities said urgent action was needed with farmers refusing to sell last year's carryover at the \$1.06 per bu. ceiling price because they could realize \$1.50 feeding it to livestock.

New Officers Take Over In Paper Mill Men's Club

J. Dwight Tudor, President; Ansel A. Ernst, Vice President; Gerry A. Thiem, Secretary, and J. W. Genuit, Treasurer, now lead Los Angeles organization. Stressing war bond sales activity, annual Hi-Jinx will be held again next September.

● When Paul H. Raab of the Lily Tulip Cup Corporation stood up to face members of the Paper Mill Men's Club of Southern California at a well-attended meeting held at the Oakmont Country Club, Los Angeles, April 29, he had completed an active year in the president's chair.

Into his office stepped J. Dwight Tudor, sales executive of Fibreboard Products Inc., moving up, as is customary with this club, from the vice presidency. Ansel A. Ernst, sales manager in Los Angeles for Everett Pulp & Paper Company, relaxed from exacting duties as secretary to become vice president, while Gerry A. Thiem, Coast manager for Milwaukee Lace Paper Company, relinquished the treasurership to become secretary. The "shuffle" was complete when J. W. Genuit, vice president and general sales manager of Fernstrom Paper Mills, Inc., Pomona, Calif., was elected to handle the finances.

First meeting of the new regime was held May 27 at Cheviot Hills Country Club, 30 members being present to greet President Tudor

with warm applause. Golf had occupied the attention of many during the afternoon and this whetted appetites for an excellent roast beef dinner provided by club officials.

Chief business of the session that followed revolved around the problem of whether, in war time, the clubs' annual Hi-Jinx should be held next fall. President Tudor and other officers expressed their views; then opinions from the floor were asked and freely given. It was brought out that the yearly affair has a patriotic motif in the war bond sales activity, a recent feature proving very popular.

Mr. Tudor expressed practically the unanimous thought of the membership present when he declared the Hi-Jinx should be held, not only because of its productiveness from war bond sales, but also as a morale builder. "If I felt that, by planning this we were interfering with the war effort, I would be first to vote against it," he said.

After more discussion a vote was taken and, with few dissenting voices, was taken in the affirmative. The celebration is to be held at the Ri-



J. DWIGHT TUDOR (left), Fibreboard Products Inc., became President of the Paper Mill Men's Club of Southern California, at the May 27 meeting in Los Angeles. ANSEL A. ERNST (right), Everett Pulp & Paper Company, moved up from Secretary to Vice President.

viera Country Club some time in September.

Speaker of the evening was Arthur W. Ponsford, Southern California editor, PACIFIC PULP & PAPER INDUSTRY. His subject was: "Japanese Espionage through the Fishing Fleets."

D. B. Davies, Industry Pioneer, Dies

● David B. Davies, production manager for Rayonier Incorporated's four Washington state pulp mills and well known pioneer of the industry on the Pacific Coast, died June 12 in Providence hospital, Seattle, after an attack of influenza. He was buried with Masonic rites two days later at his home town, Shelton, Wash.

Mr. Davies, who was 66 years old, was born in Glamorganshire, Wales, emigrating with his family to the United States in 1887 at the age of 10. He was associated with the industry in Michigan and Wisconsin before moving to Shelton in 1927 to direct operations of the first pulp mill in western United States.

Only a few weeks ago a representative of PACIFIC PULP & PAPER INDUSTRY called on Mr. Davies at Shelton at which time he recalled many interesting and amusing anecdotes of early pulp-making days at Shelton.

He told how many prominent citizens of the little town were invited to see the mill start up. After lining them up against a wall, well away from the ma-

chine, Mr. Davies had to leave the machine room temporarily. When he came back he found the crew had encountered difficulty in getting a pulp sheet formed. Finally, all the townsfolk, wanting to be helpful, had crowded down in the pit and were grabbing handfuls of pulp trying to get the sheet started.

"We brought a few men from Wisconsin, who like their fathers and grandfathers before them, were mill men," said Mr. Davies. "But most of our crew were local inexperienced villagers. One of my first jobs was teaching them not to throw orange peels and other refuse in the pulp."

Mr. Davies is survived by his wife and daughter, Mrs. Merritt Kaphingst, whose husband is one of the superintendents in the Shelton mill.

Fibreboard Man Killed At Guadalcanal

● First gold star on the service flag of Fibreboard Products Inc., Port Angeles, Wash., division, stands for Corp. William H. Woodcock, who was killed on Guadalcanal on January 22. He received posthumously the decoration of the Purple Cross. He previously had received a citation in September from his colonel of infantry.

He worked at Fibreboard in Port Angeles for a year and a half, first on a fuel boat and later as finisher and winderman on No. 2 machine. This Fibreboard plant has given leaves to about 50 in the armed services, which is about one-quarter of its present personnel.

Crawshaw Manages Western Gear Plant

● S. LeRoy Crawshaw has taken over the management of the Lynwood, Calif., plant of Western Gear Works, which also has plants in Seattle and Vernon, Calif. It is associated with Pacific Gear & Tool Works of San Francisco.

Mr. Crawshaw came west to his new post after 24 years' continuous service with Westinghouse Electric and Manufacturing Company, Pittsburgh. He entered the Westinghouse service as a draftsman and left as manager of engineering in the gear division.

At the Nuttall Works, the gear division of Westinghouse, Mr. Crawshaw helped develop gear drives for paper and pulp mills. He is chairman of the general standards committee of the American Gear Manufacturers Association of the United States.

Dr. Hibbert, On Coast Tour, Discusses Wood Waste Uses

Retired McGill professor, who is an outstanding international authority on cellulose and lignin, is honor guest at dinners given by Crown Zellerbach, introducing him to faculties of Pacific Coast universities. William R. Barber accompanies him on tour. Dr. Hibbert sees this area as ripe for pulp industry development.

DR. HAROLD HIBBERT, recently retired professor of chemistry at McGill University, Montreal, who is internationally known for his studies in forest chemistry, was a visitor on the Pacific Coast during recent weeks.

Dr. Hibbert, who devoted some 15 years to forest chemistry and contributed largely to the pulp industry's knowledge of cellulose, has more recently attained a world-wide reputation for his studies in the structure of lignin and his work on the liquefaction of wood by high

pressure hydrogenation. Educated at the Universities of Manchester in England and Leipzig in Germany, his experimental work was carried on during six years at Yale University as professor of cellulose chemistry and later at McGill. He is an American citizen.

For several years, Dr. Hibbert has had industrial connections on the Pacific Coast and this activity will be continued. He said he anticipates making his home on the coast "if it suits Mrs. Hibbert."

During his tour Dr. Hibbert was accorded complimentary dinners in Seattle, Corvallis, Ore., and Palo Alto, Calif., by Crown Zellerbach Corporation, arrangements for these affairs being made by William R. Barber, technical director of the corporation. The purpose of these dinners was to introduce Dr. Hibbert to those members of the faculties of the University of Washington, Oregon State College and Stanford University, who have been closely interested for many years in Dr. Hibbert's work. Dr. Hibbert and Mr. Barber also were guests of the University of California Faculty Club.

At the dinner in the Washington Athletic Club in Seattle on May 20, Robert Misphey, assistant technical director of Crown Zellerbach Corporation, represented Mr. Barber, and was assisted by Dr. H. K. Benson, head of the department of chemistry and chemical engineering at the University of Washington. A dozen members of the Washington faculty and of the Crown Zellerbach organization attended.

Faculties Honor Him

Mr. Barber was host at the Corvallis dinner in the Hotel Benton on May 25, where nine forestry and chemistry faculty men from Oregon State College were present, and at Stanford University a few days later. Attending the Stanford dinner were Dr. R. E. Swain, professor emeritus of chemistry and former executive head of the department at Stanford, and about twelve faculty members of the chemistry department, the food research institute and the photo-synthesis laboratory. On another day Dr. Swain accompanied Dr. Hibbert and Mr. Barber to the University of California, Berkeley, Calif., where they were entertained at luncheon at the Faculty Club by a dozen members of the science departments.

Another event honoring Dr. Hib-



DINNERS HONORING DR. HAROLD HIBBERT, retiring Professor of Chemistry, McGill University, Montreal, Canada, in Seattle on May 20 and in Corvallis, Ore., on May 25. University of Washington faculty were guests at Seattle and Oregon State College faculty members at Corvallis.

(1) Among those at the Seattle dinner: **LEONARD ZIEL**, Assistant Manager, Port Townsend Division of Crown Zellerbach Corp., Port Townsend, Wash., on the left, and **Dr. H. K. BENSON**, head of the Department of Chemistry and Chemical Engineering, University of Washington.

(2) **Dr. HIBBERT**, at the Seattle dinner.

(3) The group at the Corvallis dinner (left to right): **Leo Friedman**, Assistant Professor of Chemistry; **Dean F. A. Gilfillan** of the School of Science; **Dr. Hibbert**; **George Gleason**, Professor and Head of Department of Chemical Engineering; **Dean Paul M. Dunn**, School of Forestry; **William R. Barber**, Technical Director, Crown Zellerbach Corporation; **Edward Locke**, Assistant Professor of Chemical Engineering; **V. H. Cheldelin**, Assistant Professor of Chemistry; **B. E. Christensen**, Associate Professor of Chemistry; **Earl C. Gilbert**, Professor of Physical Chemistry and Chairman of Department, and **Chas. S. Pease**, Associate Professor of Organic Chemistry.

bert was the regular luncheon in Seattle on May 20 of the 101 Club, a select organization of Seattle business and professional men, at which the Montreal man was guest speaker. W. R. Montgomery, assistant district sales manager, Standard Oil Company, presided. Dr. Benson of the University introduced Dr. Hibbert to this group, saying:

"For the last word on lignin—go to Dr. Hibbert!"

To his laymen audience, Dr. Hibbert discussed mainly the fundamentals of forest chemistry but of interest to readers of this magazine were some of his personal recollections of his years of experimenting. Even though his subject was a highly technical one, his presentation held his mixed audience and during the one hour talk, it might be said a pin could have been heard to drop in the dining hall at the Washington Athletic Club, where the 101 meet.

Aware that a number of men in his audience had business connections with the great lumbering and allied forest industries of the Pacific Coast, Dr. Hibbert stressed the theme of attaining fuller utilization of wood and reducing waste in the forests—an increasingly serious problem to those industries. Dr. Hibbert expressed a personal desire to assist in the practical application in future years of the academic studies he has made in recent years.

He told his audience how an approximate two tons of wood is required to make one ton of sulphite pulp and how the rest "goes into the stream as waste."

Proved Germans Wrong

"In this," he said, "is lignin. Nobody knew what lignin was five years ago. At first it was thought it was related to sugar, as we had found cellulose to be. The Germans were so certain of this that they published a work stating that lignin was a derivative of sugar.

"We at McGill were about ready to give up. But we did not believe the Germans were right and when they made their claims it inspired us to continue our studies."

Dr. Hibbert then related how it was finally determined that lignin was an extremely reactive substance, from which it was possible to isolate products related to coal tar and not sugar.

He related that four tons of vanilla a month are made from lignin in Canada as a result of the McGill studies, that wood has been liquefied just as coal was, that new derivatives of nylon are known and that a new synthetic organic chemistry holds

promise of developments in the fields of explosives and solvents.

Dr. Hibbert said that in the past the lumbering industry has been content to use only 30 per cent of the tree. He emphasized developments in plastics as promising much greater utilization of wood and, after describing how plywood is bonded with plastics, said that plastics in the future may become "an integral part of wood."

Coast Conditions Favorable

He concluded that conditions on the Pacific Coast are favorable for future broad development of the pulp industry.

Those at the Seattle dinner given by Crown Zellerbach in addition to Drs. Hibbert and Benson and Mr. Misphey were: Dean E. R. Guthrie, head of the graduate school and professor of psychology; H. V. Tartar, professor of chemistry; W. L. Beuschlein, professor of chemical engineering; A. J. Bailey, research professor in lignin-cellulose chemistry; O. Harry Schrader, Jr., assistant professor of forest products; Wells Moulton, assistant professor

of chemical engineering, and Joseph L. McCarthy, instructor of chemical engineering, all of the University of Washington; Leonard Ziel, assistant manager, National Paper products Co., Port Townsend, Wash., and Ray C. Austin, technical supervisor, Washington Pulp & Paper Corp., Port Angeles, Wash., whose mills are divisions of Crown Zellerbach and J. W. Wenger from the central technical department of Crown Zellerbach at Camas, Wash.

With Dr. Hibbert and Mr. Barber at the Corvallis dinner were these OSC men: Dean F. A. Gilfillan of the school of science; Dean Paul M. Dunn of the school of forestry; George Gleeson, professor and head of the department of chemical engineering; Earl C. Gilbert, professor and chairman of the department of physical chemistry; B. E. Christensen, associate professor of chemistry; Leo Friedman and V. H. Cheldelin, assistant professors of chemistry; Charles S. Pease, associate professor of organic chemistry, and Edward Locke, assistant professor of chemical engineering.

Oxford Company Man Talks On War Problems

● O. S. "Red" Barrie, western sales manager of the Oxford Paper Company, Chicago, addressing a group of 25 printers and other guests at an Arctic Club luncheon in Seattle on May 19, said that labor in finishing rooms was the bottleneck of most paper mills today.

J. W. Thompson, vice president and general manager of the Seattle division of Blake, Moffitt & Towne, was host

at the luncheon and introduced Mr. Barrie.

"Labor is the primary problem, from the paper to the woods, in this industry," said the Chicago man. "However, we may be able to produce sixteen million tons of paper this year, even with a shrinkage of two million tons of pulp, by reducing furnishings and using waste paper."

He said dyes, reduced to 60 per cent of 1941 use, also were a serious problem and the shortage of casein was most critical. He said, "we have turned from a tapioca starch to a corn starch and probably we will next use a wheat starch" in discussing sizing problems.

From Oxford's two mills, said Mr. Barrie, 600 men out of 2800 employed have gone into the armed services and it has been difficult replacing them with women. Men from all parts of the mills, he said, are working a few hours extra in the finishing room as trimmers.

Discussing German propaganda publications including magazines, he said the "dirty white" they are printed on matches the character of the textual matter.

Lieutenant Fulton "Somewhere in the Pacific"

● Lieut. John M. Fulton, USNR, former manager of Pacific Coast Supply Company, Portland, Ore., now on leave for the duration, completed his indoctrination course and studies in naval aviation administration at Dartmouth College, Hanover, N. H., with flying colors. He is now on duty "somewhere in the Pacific."

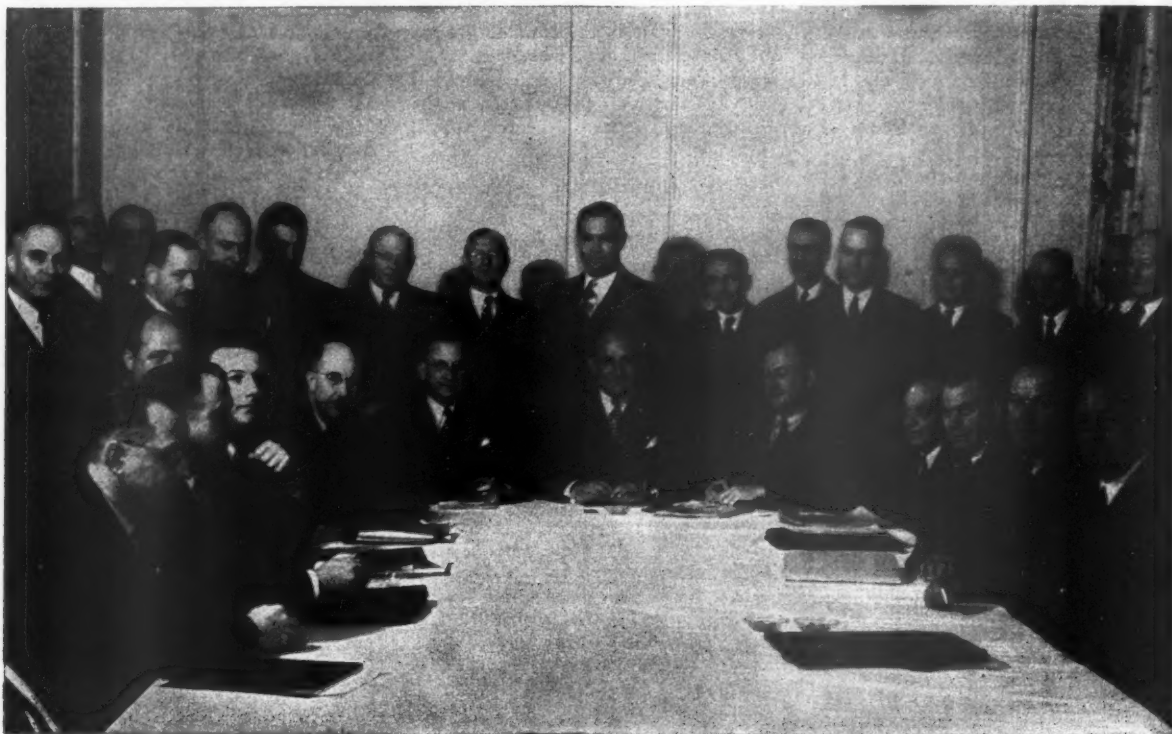
His many friends in the industry may write him at the following address:

Lt. John M. Fulton, USNR,
Headquarters Squadron,
Fleet Air Wing Six,
care Fleet Postmaster,
San Francisco, Calif.



O. S. BARRIE, OF CHICAGO, Western Sales Manager of the Oxford Paper Company, told a Seattle audience the paper mills are facing difficult problems but are solving them.

Fibreboard Executives Shown Together In a Rare Group Photograph



Many of the top executives of Fibreboard Products Inc., are in this picture. They met early this year in San Francisco to discuss sales and operating problems.

Seated left to right: J. W. MARTIN, Resident Manager, Portland, Ore.; ART BOLTER, Carton Supt., Stockton, Calif.; M. E. SANFORD, Resident Manager, Sumner, Wash.; L. W. GARLICK, Resident Manager, South Gate, Calif.; HOWARD CAMPBELL, Central District Sales Manager; D. H. PATTERSON, JR., President and General Manager; E. J. FARINA, Vice-President in Charge of Sales; P. H. KELLER, Resident Manager, Stockton; G. W. HARTER, Resident Manager, Antioch, Calif.; MURRY BROWN, Resident Manager, Vernon, Calif.; BRUCE BROWN, Manager, Southern District; WILLIS THOMAS, Asst. Sales Manager.

Standing: HARRY HUNNELL, Carton Supt., Antioch; T. L. CAREY, Northern District Sales Mgr.; DON LITTLE, Corr. Supt., Antioch; FRANCIS McDONALD, Cost Acct., Head Office; R. E. BUNDY, Vice President and Gen. Mgr., Federal Container Co., Philadelphia; T. NOEL BLAND, Vice-President and Asst. Gen. Mgr.; N. M. BRISBOIS, Vice-President in Charge of Production; HOWARD STILWELL, Patent Advisor; CORT MAJOR, Sales Mgr., Southern Division; W. HAWKSY, Asst. Resident Mgr., Antioch; V. C. HOBBS, Secretary; DANA NELSON, Statistician; GEORGE FORD, Carton Supt., Vernon Division; J. F. GARVIN, Treas.; WALTER HELLER, Sales; W. McAULIFFE, Resident Mgr., San Francisco.

Remarkable Bond Sale Record at West Linn

● In response to an appeal from the Oregon state war finance committee, an employes-management committee at the Crown Zellerbach mill in West Linn carried out a special war bond selling campaign during April.

At the outset, some doubt was naturally held as to how many additional bonds could be sold to the 667 employes, who already were participating 100 per cent in payroll deductions for bonds, with 11.4 per cent of the payroll going into those purchases.

To the amazement of all concerned, the West Linn committee sold (not pledged) \$33,675 worth of war bonds over and above the amount subscribed for in payroll deductions.

The committee members were R. H. Adams, for the Paper Mill Workers, Tom Smith, for Pulp, Sulphite & Paper Mill Workers, and George LaHusen, assistant

to the personnel supervisor, for the management.

A telegram from J. D. Zellerbach, president, to C. E. Bruner, resident manager, said: "The executive committee joins me in asking that you extend to the members of your organization our heartiest congratulations on this remarkable record."

"Steve" Coney In South

A recent letter from D. S. "Steve" Coney, personnel and safety supervisor at the Port Townsend, Wash., division of Crown Zellerbach Corp., now on leave and in the U. S. Army, disclosed that he was stationed at Camp Callan in Southern California. His army duties are connected with handling of personnel, similar to the work he did at Port Townsend.

Two assistants are carrying on his personnel and safety work at Port Townsend, Maxwell Loomis and Bernard Mulaney.

Enghouse Has Bout With Chicken Pox

Clarence A. Enghouse, assistant resident manager of the Crown Zellerbach mill at West Linn, Ore., says he is ready to take on kindergarten next after being confined to his home ten days by chicken-pox.

It was a well-earned, although unexpected, vacation for the West Linn executive, who is the new chairman of TAPPI, Pacific section, after a hard winter of fighting floods at the mill and various wartime problems.

Asst. Timber Controller

W. R. Roberts of the National Selective Service Department, has been appointed assistant timber controller of Canada in charge of pulpwood, to succeed Wallace A. Delahey, who resigned March 31. Before his appointment to the selective service organization, Mr. Roberts was manager of the Gaspesia Sulphite Company at Chandler, Que.

Congratulations, One and All . . .

Penn Salt Wins "E" Pennant

• The Army-Navy "E" pennant was awarded to the Pennsylvania Salt Manufacturing Company of Washington, in Tacoma, Wash., last month, with Captain James R. Tague, U. S. N., making the presentation. Fred C. Shaneman, vice president of the company, in accepting the honor flag, paid special tribute to his associates and to the team work of the production and engineering departments.

Reno Odlin, president of the Puget Sound National Bank of Tacoma, was the master of ceremonies. Mr. Odlin paid high tribute to the Pennsylvania Salt Manufacturing Company as being an outstanding example of successful American business under "the American way of life."

A citation for "meritorious and distinguished service to their country in its time of need . . ." was read to the employees by Colonel Arthur J. Ericsson, U. S. A., Post Inspector at Fort Lewis. Colonel Ericsson presented "E" pins to employee representatives. An unexpected feature of the program was the opportune arrival of Colonel Clarence B. Lober, Chief, Barrage Balloon Section, U. S. Army Air Corps, Washington, D. C., who congratulated the company upon the outstanding work which had led him to recommend it for the award.

The parent company was founded in Philadelphia in 1850 for the manufacture of lye from salt. The Pennsylvania Salt Manufacturing Company of Washington commenced operations in 1929, and since that time has expanded its plant facilities greatly for the purpose of producing other chemicals to render extended service to the pulp and paper industry and other Pacific Northwest enterprises.

The Tacoma subsidiary operates a chlorate plant at Portland, Ore., and an electrolytic chlorine and caustic plant at Tacoma, Wash. In peacetime, more than 90 per cent of the chlorine is shipped to Northwest pulp and paper mills where it is used for bleaching purposes. This chemical is perhaps the most widely required chemical at all times, either in peace or in war. At present, like many other chemical plants, much of this company's activity is associated directly with the war effort.

Container Corporation

The Army-Navy "E" award for excellence in war production was presented on May 5 to employees of the Philadelphia plant of Container Corporation of America. This is the first time such recognition has been accorded a plant in the paperboard and paper box industry.

Colonel Maurice C. Gregory, quartermaster of the Philadelphia Marine Corps depot, presented the pennant, which was accepted by Walter P. Paepcke, president of the company.

Hooker Company

The Hooker Electrochemical Company has been awarded the White Star to be added to the Army-Navy "E" flag which they received.



SEAMEN, U. S. NAVY, RAISED THE "E" PENNANT at the Pennsylvania Salt Manufacturing Company of Washington. Principals at the ceremony shown here, left to right: CAPT. JAMES R. TAGUE, U.S.N.; COL. ARTHUR J. ERICSSON, U. S. A.; COL. CLARENCE B. LOBER, Chief, Barrage Balloon Section, U. S. Army Air Corps, Washington, D. C.; FRED C. SHANEMAN, vice president of the company.

Announcement of the second award was made by Under Secretary of War, Robert P. Patterson, in a letter addressed to the men and women employees of the company. The award is made for continuous, meritorious services on the production front.

Dow Chemical

The Dow Chemical Company, Texas Division, located at Freeport, Tex., also the Dow Magnesium Corporation plant at Velasco, Tex., have received the Army-Navy "E" award. Four "E's" have been given to Dow-owned or operated plants since last December. The first award went to the Midland (Mich.) plant; the second was won by Dow's Bay City (Mich.) Division.

Babcock & Wilcox

The Barborton works of The Babcock & Wilcox Company has been awarded, as of April 2, the second renewal of the Army-Navy "E" for excellence of production. On April 30 this same plant received a renewal award of the Maritime "M".

Hercules Powder

Colonel Lucian D. Booth, Commanding Officer, Radford Ordnance Works, presented the Army-Navy "E" pennant to Hercules Powder Company men and women at the Hopewell plant, at the ceremonies April 13.

Also, the Port Ewen plant, on April 16, was awarded the Army-Navy "E" flag. Employees and members of their families, and many of the townspeople of Port Ewen and Kingston, gathered at the plant, despite a driving snowstorm.

Fairbanks, Morse & Co.

Fairbanks-Morse and Company scored a triple-play with "E" awards going to the company plants at Freeport, Ill., Three Rivers, Mich., and Beloit on January 13, in Three Rivers on January 21, and in Beloit on January 18.

The Beloit ceremony was held during one of Southern Wisconsin's worst blizzards in recent years.



JAMES L. "JIM" MAHULA, 21 YEARS A MACHINIST, and a former U. S. Marine, overseas in the last war, is foreman of the machine shop of the Oregon Pulp and Paper Company at Salem, Ore. While Jim supervises the war work being done in that department for the maritime industries, his three sons are in uniform as their dad was in the last war. JOHN, the eldest, is in the air corps at Morrison Field, Florida. MARTIN is in the air corps, too, as a technical sergeant at Williams Field, Arizona. FRANCIS, the youngest, is in the army. MARTIN is said to be the tallest man in the air corps, standing 6 feet eight inches. JOHN is 6 foot 1 inch while FRANCIS is a mere 5 feet 11.

Acid Making In the Sulphite Pulp Industry

by A. H. LUNDBERG*

CHAPTER I--Concluded

● This installment of Mr. Lundberg's article completes the series of sulphur dioxide saturation charts which began in the April issue.

The charts, which appear on pages 30, 31, 33, 35, 37 and 38, were prepared to give the relationship between Combined SO₂ and Total SO₂ of saturated solutions for various gas strengths and at various temperatures. All temperatures given are the final temperatures of the acid.

The technical data in Chapter I will provide the basis for a discussion of the use of this data in mill operation. This discussion will be taken up in Chapter II.

XII. Thermo-Chemistry of Acid Making

Below is a list of "Heats of Formation and Solution" of some of the compounds used in acid making. Most of the data are taken from Chemical Engineers' Handbook, second edition.

	Kg. Calories per Gram Mol.	B.T.U. per Pound Mol.
H ₂ O	68.4	123,100
SO ₂	70.9	127,600
CO ₂	94.0	169,200
H ₂ SO ₃ -Aq.	146.7	264,100
CaO	151.7	273,100
Ca(OH) ₂	236.0	424,800
CaCO ₃	289.1	520,400
CaH ₂ (SO ₃) ₂ -Aq.	434.9	782,800
MgO	146.1	263,000
Mg(OH) ₂	218.7	393,700
MgCO ₃	267.6	481,700
MgH ₂ (SO ₃) ₂ -Aq.	409.7	737,500
Na ₂ O	99.4	178,900
NaOH	101.9	183,400
Na ₂ CO ₃	269.4	484,900
Na ₂ SO ₃	261.2	470,200
NaHSO ₃	205.0	369,000

Heat of Chemical Reactions

	Kg. Calories per Mol.
1. H ₂ O + SO ₂ = H ₂ SO ₃ -Aq.	+ 7.4
Calcium Base:	
2. CaCO ₃ + 2 SO ₂ + H ₂ O = CaH ₂ (SO ₃) ₂ -Aq. + CO ₂	+29.6
3. CaO + 2 SO ₂ + H ₂ O = CaH ₂ (SO ₃) ₂ -Aq.	+73.0
4. Ca(OH) ₂ + 2 SO ₂ = CaH ₂ (SO ₃) ₂ -Aq.	+57.1
Magnesium Base:	
5. MgCO ₃ + 2 SO ₂ + H ₂ O = MgH ₂ (SO ₃) ₂ -Aq. + CO ₂	+25.9
6. MgO + 2 SO ₂ + H ₂ O = MgH ₂ (SO ₃) ₂ -Aq.	+53.4
7. Mg(OH) ₂ + 2 SO ₂ = MgH ₂ (SO ₃) ₂ -Aq.	+49.2

Assuming an acid of following combination is wanted:

4.50% Total SO ₂
2.75% Free SO ₂
1.75% Comb. SO ₂ .

Then following heat units are evolved or set free per 1 liter of solution, (1000 c.c.):

using CaCO₃ as per equations 1 and 2.

$$\begin{aligned} \text{Free SO}_2 &= \frac{2.75 \times 1000 \times 7.4}{100 \times 64} = 3.18 \text{ Kg.Cal.} \\ \text{Comb. SO}_2 &= \frac{1.75 \times 1000 \times 29.6}{100 \times 64} = 8.09 \text{ Kg.Cal.} \\ &= 11.27 \text{ Kg.Cal.} \end{aligned}$$

using CaO as per equations 1 and 3.

$$\begin{aligned} \text{Free SO}_2 &= \frac{2.75 \times 1000 \times 7.4}{100 \times 64} = 3.18 \text{ Kg.Cal.} \\ \text{Comb. SO}_2 &= \frac{1.75 \times 1000 \times 73.0}{100 \times 64} = 19.96 \text{ Kg.Cal.} \\ &= 23.14 \text{ Kg.Cal.} \end{aligned}$$

using Ca(OH)₂ as per equations 1 and 4.

$$\begin{aligned} \text{Free SO}_2 &= \frac{2.75 \times 1000 \times 7.4}{100 \times 64} = 3.18 \text{ Kg.Cal.} \\ \text{Comb. SO}_2 &= \frac{1.75 \times 1000 \times 57.1}{100 \times 64} = 15.61 \text{ Kg.Cal.} \\ &= 18.79 \text{ Kg.Cal.} \end{aligned}$$

using MgCO₃ as per equations 1 and 5.

$$\begin{aligned} \text{Free SO}_2 &= \frac{2.75 \times 1000 \times 7.4}{100 \times 64} = 3.18 \text{ Kg.Cal.} \\ \text{Comb. SO}_2 &= \frac{1.75 \times 1000 \times 25.9}{100 \times 64} = 7.08 \text{ Kg.Cal.} \\ &= 10.26 \text{ Kg.Cal.} \end{aligned}$$

using MgO as per equations 1 and 6.

$$\begin{aligned} \text{Free SO}_2 &= \frac{2.75 \times 1000 \times 7.4}{100 \times 64} = 3.18 \text{ Kg.Cal.} \\ \text{Comb. SO}_2 &= \frac{1.75 \times 1000 \times 53.4}{100 \times 64} = 14.62 \text{ Kg.Cal.} \\ &= 17.80 \text{ Kg.Cal.} \end{aligned}$$

using Mg(OH)₂ as per equations 1 and 7.

$$\begin{aligned} \text{Free SO}_2 &= \frac{2.75 \times 1000 \times 7.4}{100 \times 64} = 3.18 \text{ Kg.Cal.} \\ \text{Comb. SO}_2 &= \frac{1.75 \times 1000 \times 49.2}{100 \times 64} = 13.45 \text{ Kg.Cal.} \\ &= 16.63 \text{ Kg.Cal.} \end{aligned}$$

The specific gravity of the raw acid is mostly influenced by the lime content. Dr. Humm calculates the specific gravity of a raw acid at 15°C., as follows:

$$\begin{aligned} \text{Sp. Gr.} &= 1 + 0.0051 (a + 3b) \\ \text{where } a &= \% \text{ Total SO}_2 \\ b &= \% \text{ CaO.} \end{aligned}$$

$$\text{Per cent CaO} = \frac{7}{8} \times \text{Per cent Comb. SO}_2.$$

*Seattle, Washington. Mr. Lundberg is Western Manager, G. D. Jensen Company, New York City.

Foreign Enemy Attacks—

Paper mills, like nearly every American industry, wage a continuous battle against mold and decay. In paper making processes, large amounts of water are used—water that carries fungi, algae and slime-forming bacteria. Wood pulp in storage is also vulnerable to stain and decay. These enemies are a threat to both quality and quantity of finished materials.

To help win this fight for better products, manufacturers call upon Dowicide industrial germicides and fungicides.



Small quantities of one or more of the 17 Dowicide products are used in various processing operations to inhibit the growth of fungi and bacteria. They are helping to make better paper, leather, paint, lumber, and many other materials.

OTHER PROTECTIVE SERVICES PROVIDED BY DOWICIDE: Preservation of lap and pulp stock—Dowicide F or G; longer felt life—Dowicide G; preservation of mold resistant paper products—Dowicide A, B and G; prevention of decay and termite attack—Dowicide G; for reducing maintenance costs—Dowicide Z, preserves structural timbers. Write for full details.

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Specific Gravity of the above acid is thus, approx.,
 $1 + 0.0051 (4.50 + 3 \times 7/8 \times 1.75) = 1.046$
 To translate Spec. Gravity into °Baume use the formula

$$\text{Sp. Gravity} = \frac{146.3}{146.3 - n}$$

$n = ^\circ\text{Baume.}$

To simplify the calculations it is assumed that an average raw acid will have a specific gravity of about 1.035 and a specific heat of 1.120. It will thus require 1.16 Kg.Cal. to raise the temperature of the raw acid 1°C.

1.00% Free SO₂ in the raw acid will raise the temperature of the acid $1.16 \div 1.16 = 1.0^\circ\text{C.} - 1.8^\circ\text{F.}$

1.00% Comb. SO₂

from CaCO₃ $4.63 \div 1.16 = 4.0^\circ\text{C.} - 7.2^\circ\text{F.}$

MgCO₃ $4.05 \div 1.16 = 3.5^\circ\text{C.} - 6.3^\circ\text{F.}$

CaO $11.41 \div 1.16 = 9.8^\circ\text{C.} - 17.7^\circ\text{F.}$

MgO $8.34 \div 1.16 = 7.2^\circ\text{C.} - 13.0^\circ\text{F.}$

Ca(OH)₂ $8.92 \div 1.16 = 7.7^\circ\text{C.} - 13.9^\circ\text{F.}$

Mg(OH)₂ $7.69 \div 1.16 = 6.6^\circ\text{C.} - 11.9^\circ\text{F.}$

The influence of gas temperature on the temperature of the raw acid is very slight, seldom amounting to more than 1—2°C.

The effect of radiation is also usually of minor importance.

As temperature is the principal factor determining the solubility of SO₂, the milk-of-lime-system is at a distinct disadvantage against a stone tower system. Magnesium base is more advantageous than calcium base.

When using a dolomite base the heat of reaction will be proportionate to the calcium and magnesium content.

XIII. Gas Volumes

Tables IX and X (January issue) give the weights and volume of various burner gases at S.T.P., i.e. at 32°F—0°C. and 760 mm. Hg. atmospheric pressure, based on burning 100 lbs. of sulphur and dry gas.

The volume of any gas increases with rise in temperature and decreases with rise in pressure.

These changes in volume follow equation

$$V = V_0 \times \frac{P_0}{P} \times \frac{T}{T_0}$$

The symbols $V - V_0$, $P - P_0$ and $T - T_0$ may be expressed in any absolute units of temperature or pressure, as long as the units are the same in any one ratio.

Example 1. Find the volume of a 15% SO₂ gas at 15 lbs. pressure and 86°F. when the volume at S.T.P. is 7467 cu. ft. (See Table IX).

$$V = 7467 \times \frac{14.7}{14.7 + 15} \times \frac{460 + 86}{460 + 32}$$

$$\text{Volume} = 4105 \text{ cu. ft.}$$

Example 2. Find the volume of a 15% SO₂ gas at 1535 mm. Hg. pressure and 30°C. when burning 100 lbs. of sulphur (giving 200 lbs. SO₂).

$$V = \frac{100 \times 2}{64.06} \times \frac{359}{0.15} \times \frac{760}{1535} \times \frac{273 + 30}{273}$$

$$\text{Volume} = 4105 \text{ cu. ft.}$$

Example 3. Find the volume of a 15% SO₂ gas at 760 mm. Hg. atmospheric pressure saturated at 85°F. (See Table VI) S.T.P. volume 7467 cu. ft.

$$V = 7467 \times \frac{460 + 85}{460 + 32} \times \frac{1}{1.00 - 0.0406}$$

$$\text{Volume} = 8637 \text{ cu. ft.}$$

Example 4. Find the volume of a 17% SO₂ gas at 760 mm. Hg. pressure and 1800°F. Gas produced from 100

PACIFIC PULP & PAPER INDUSTRY

lbs. sulphur (200 lbs. SO₂) and 60% saturated air at 70°F. (See Table VI).

$$V = \frac{100 \times 2}{64.06} \times \frac{359}{0.17} \times \frac{460 + 1800}{460 + 32} \times \frac{1}{1.00 - (0.60 \times 0.0249)}$$

$$\text{Volume} = 30770 \text{ cu. ft.}$$

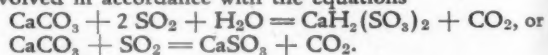
Example 5. Find the volume of a 12% SO₂ gas at 750 mm. Hg. pressure and 1800°F. gas produced from 200 lbs. pyrites 50% sulphur (200 lbs. SO₂) and 60% saturated air at 70°F. (See Tables VI and X).

$$V = \left(\frac{9726}{1.00 - (0.60 \times 0.0249)} - 9726 + 9333 \right) \times \frac{760}{750} \times \frac{460 + 1800}{460 + 32}$$

$$\text{Volume} = 44130 \text{ cu. ft.}$$

XIV. Exit Gas Calculations

When the SO₂ gas in the presence of water or sulphurous acid contacts the limerock or any other carbonate in an acid system, CO₂ gas, Carbon Dioxide, is evolved in accordance with the equations



Example 1.

Gas from 100 lbs. of sulphur (200 lbs. SO₂)

Gas strength 17% SO₂—83% O₂ and N₂ (dry basis)

Atmospheric pressure.

Acid made: 4.50% Total SO₂—1.75% Comb. SO₂.

Complete absorption of the SO₂ is assumed.

SO₂ used for Combined SO₂:

$$\frac{200 \times 1.75}{4.50} = 77.78 \text{ lbs.}$$

$$4.50$$

As 1 molecule SO₂ produces 1 molecule CO₂,

$$\frac{44.01 \times 77.78}{64.06} = 53.44 \text{ lbs. CO}_2$$

$$64.06$$

is evolved corresponding to Table VIII)

$$53.44 \times 8.16 = 436 \text{ cu. ft. S.T.P.}$$

$$\text{Original gas (Table IX)} = 6588 \text{ cu. ft. S.T.P.}$$

$$\text{SO}_2 \quad 200 \times 5.6 = 1120 \text{ cu. ft. S.T.P.}$$

$$\text{O}_2, \text{N}_2 = 5468 \text{ cu. ft. S.T.P.}$$

$$\text{Exit gas} \quad 5468 + 436 = 5904 \text{ cu. ft. S.T.P.}$$

$$\text{CO}_2 \text{ (dry basis)} = 7.4 \text{ per cent}$$

$$\text{Drop in gas volume} = 10.4 \text{ per cent}$$

Example 2.

Gas from 200 lbs. pyrites 50% sulphur (200 lbs. SO₂)

Gas strength 11% SO₂—89% O₂ and N₂ (dry basis)

Acid made 3.50% Total SO₂—1.30% Comb. SO₂.

SO₂ used for Combined SO₂:

$$\frac{200 \times 1.30}{3.50} = 74.29 \text{ lbs.}$$

$$3.50$$

CO₂ evolved:

$$\frac{44.01 \times 74.29}{64.06} = 51.04 \text{ lbs.}$$

$$64.06$$

$$\text{Original gas (Table X)} = 10182 \text{ cu. ft. S.T.P.}$$

$$\text{SO}_2 \quad 200 \times 5.6 = 1120 \text{ cu. ft. S.T.P.}$$

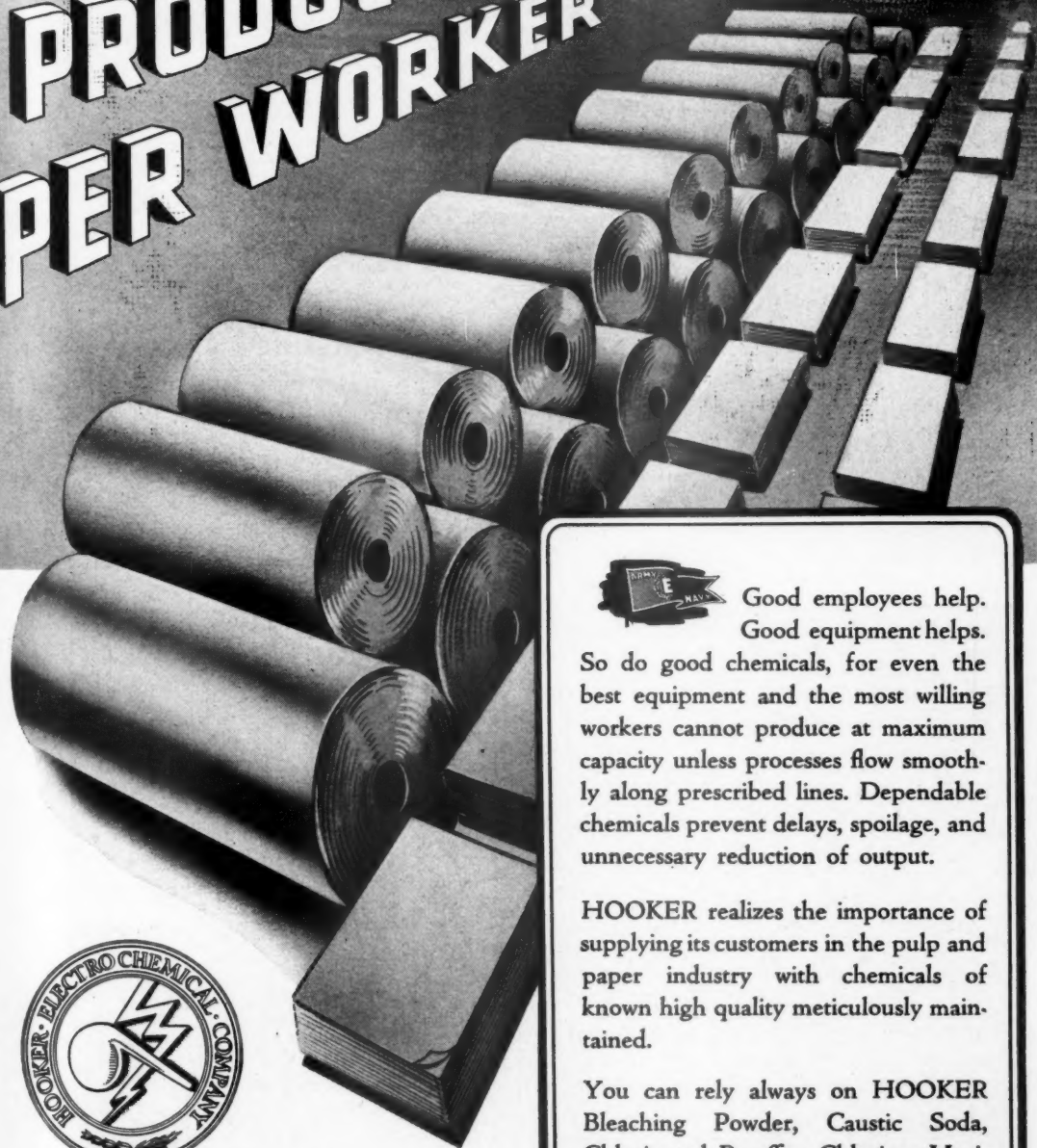
$$\text{O}_2, \text{N}_2 = 9062 \text{ cu. ft. S.T.P.}$$

$$\text{Exit gas} \quad 9062 + 416 = 9478 \text{ cu. ft. S.T.P.}$$

$$\text{CO}_2 \text{ (dry basis)} = 4.4 \text{ per cent}$$

$$\text{Drop in gas volume} = 6.9 \text{ per cent}$$

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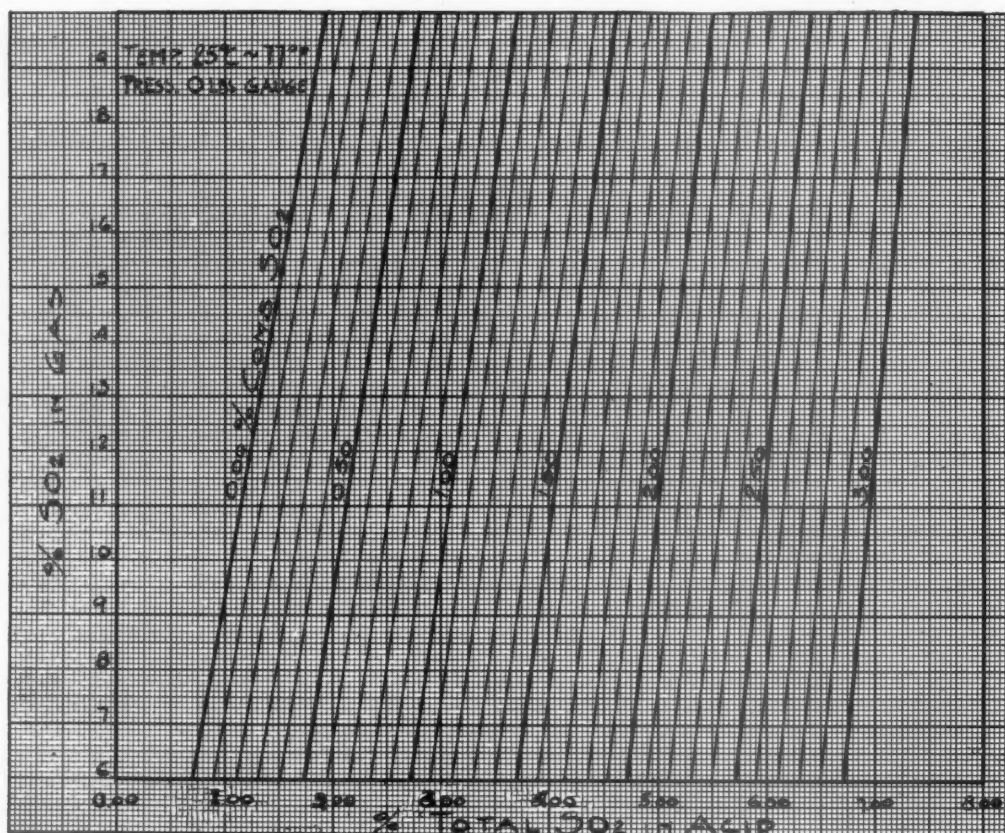


CHART XVIII - A.

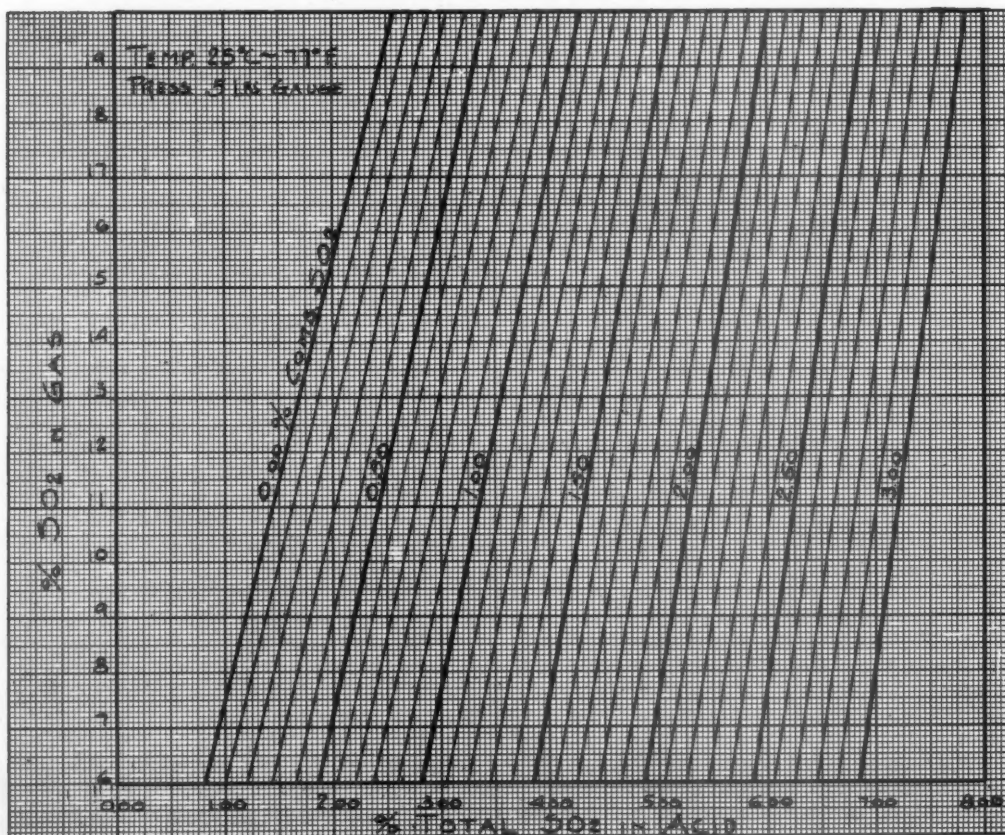


CHART XVIII - B.

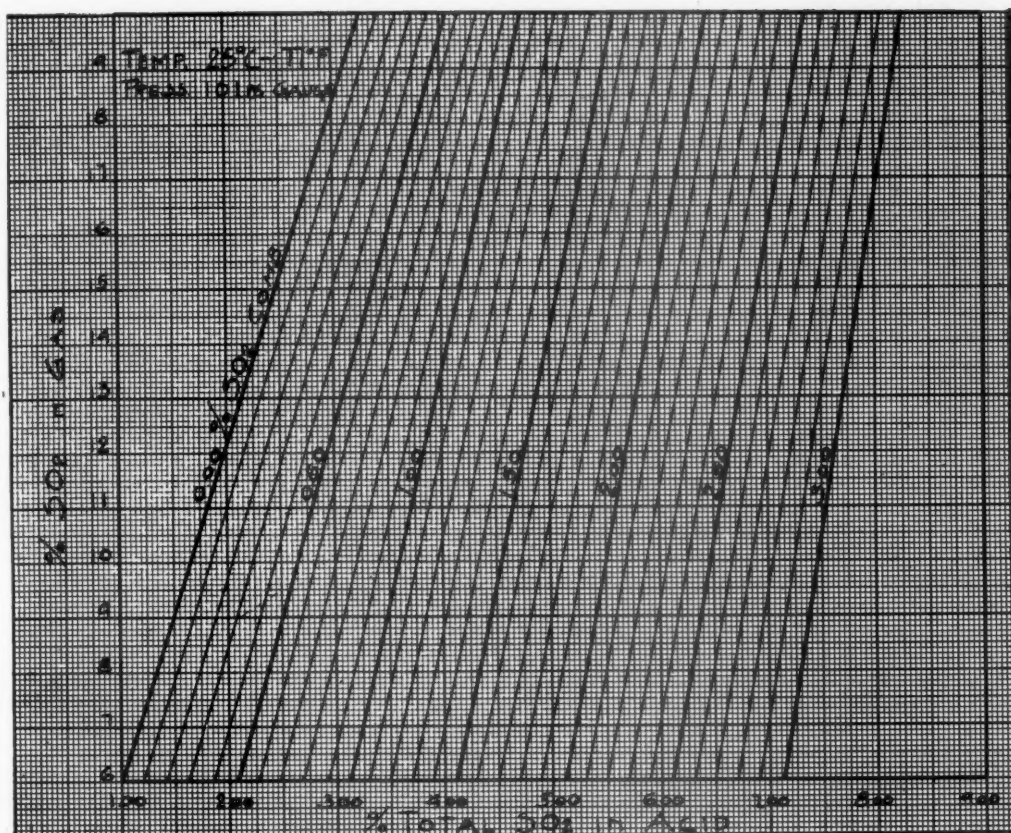


CHART XVIII-C

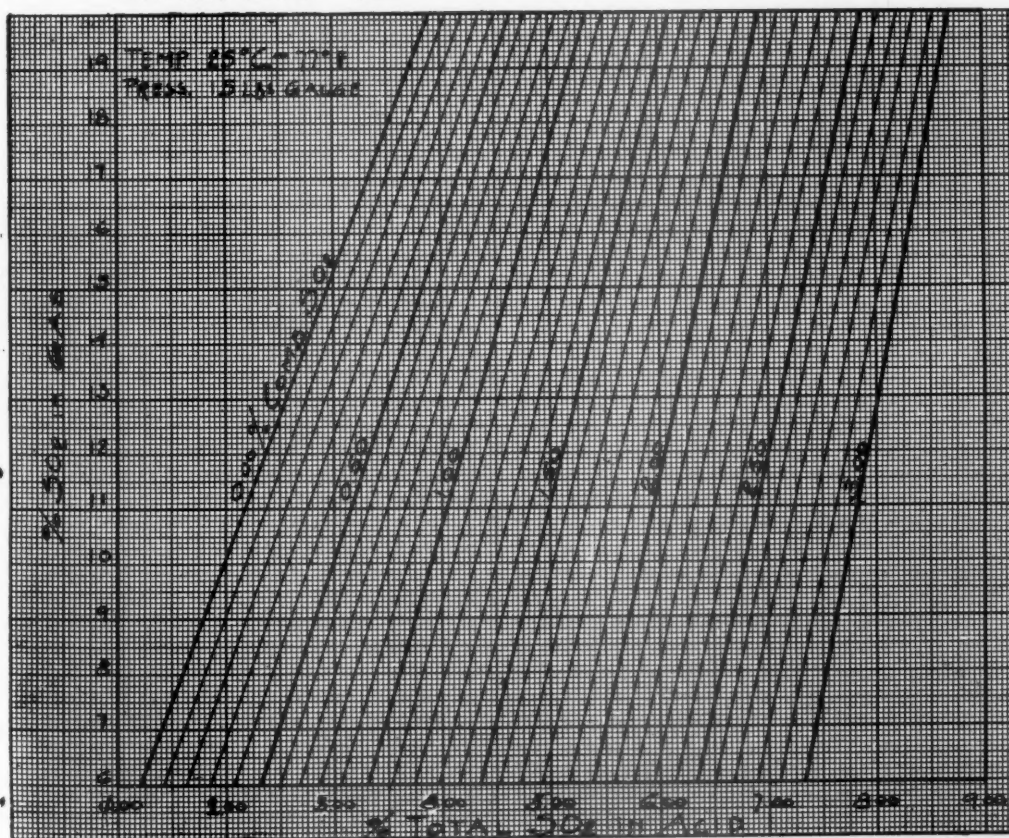


CHART XVIII-D

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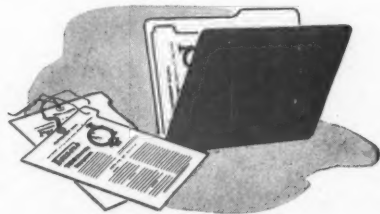
Meters are but one of many industrial instruments that are essential in the war-production of most plants. They're too important nowadays to permit any risk of interruptions or inaccuracies in their operation. Yet, all it takes to get proof-positive assurance against needless instrument shut-downs is a simple maintenance routine.

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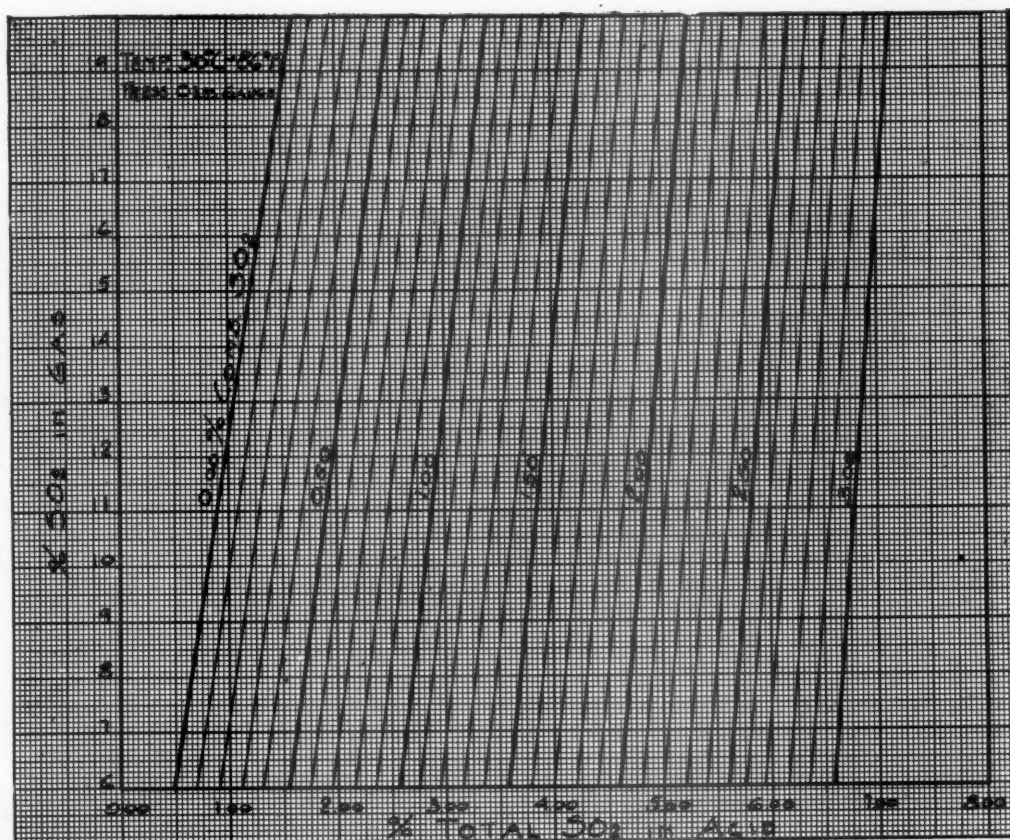


CHART XIX.-A.

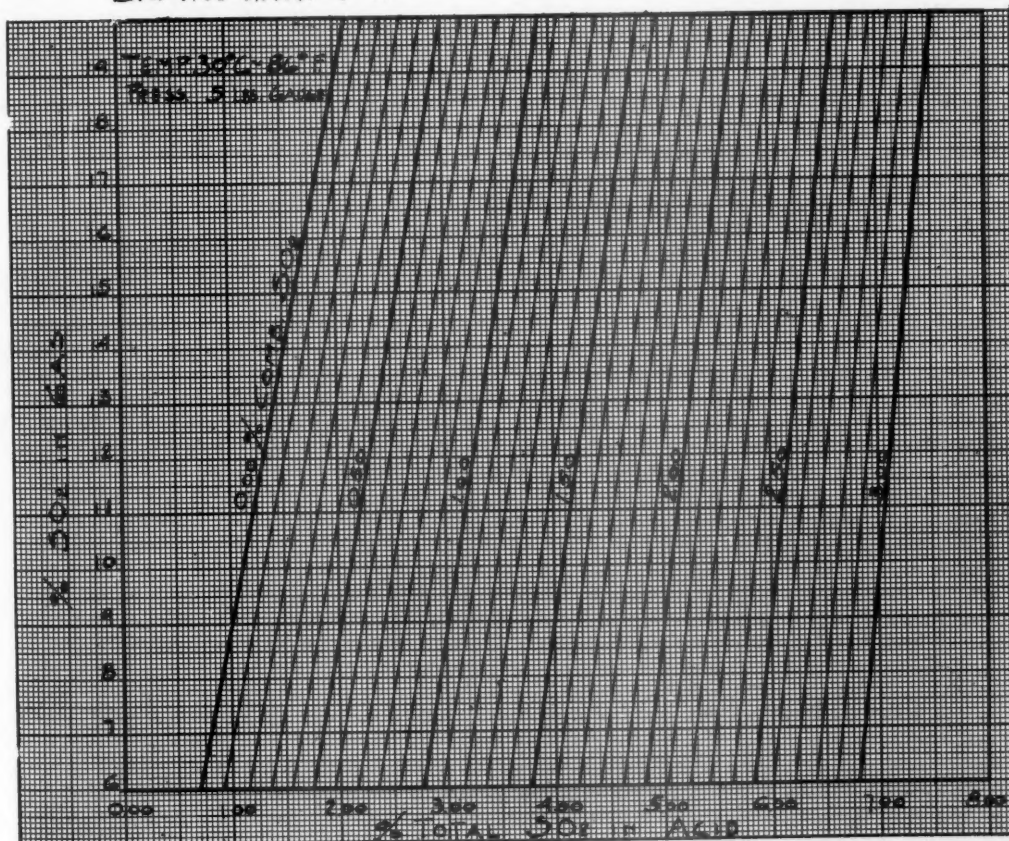


CHART XIX-B.

TWO QUALITY PAPER OILS BY ASSOCIATED

Associated No. 1 Paper Oil is an odorless, colorless, tasteless "U.S.P. White Oil" of 80 viscosity grade, that conforms to all requirements of the U. S. Pharmacopoeia. For oil-treating fruit or other wrapping paper requiring utmost purity, this oil is a standby. Sold only in contamination-proof, refinery sealed containers.

Associated No. 2 Paper Oil is a highly refined "White Neutral" of 95 viscosity grade. This oil is best known and most widely used for oil-treating tissue citrus wraps.

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TIDE WATER ASSOCIATED OIL COMPANY



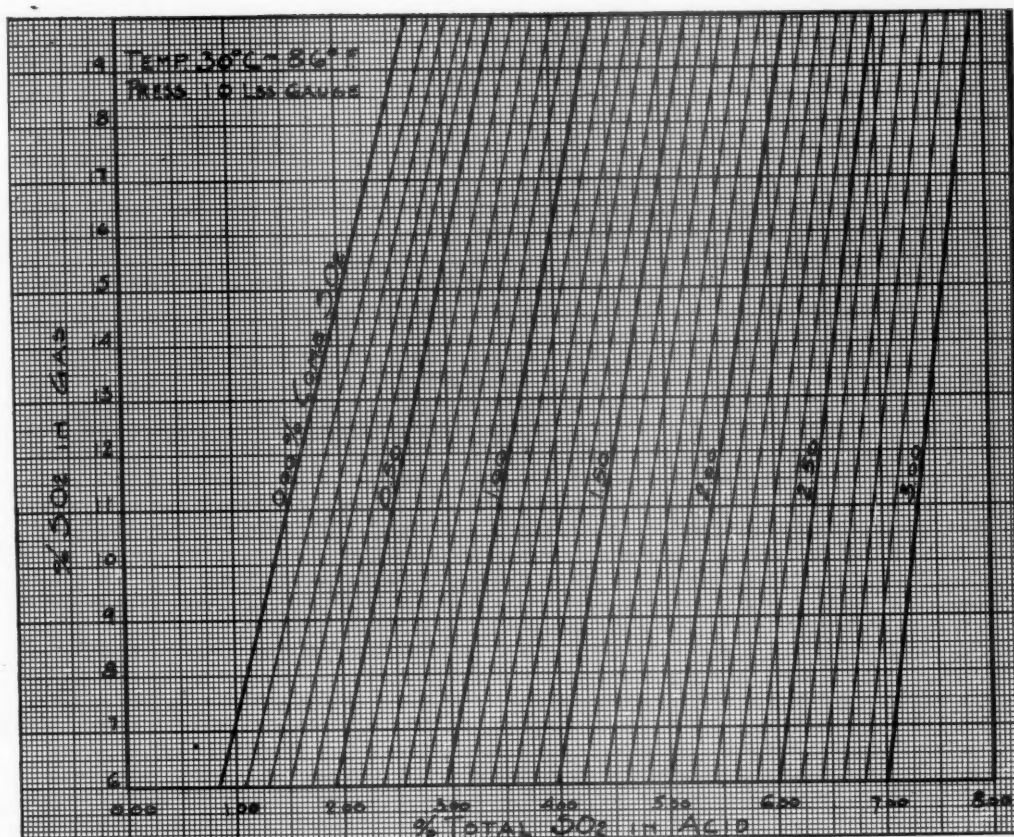


CHART XIX-C.

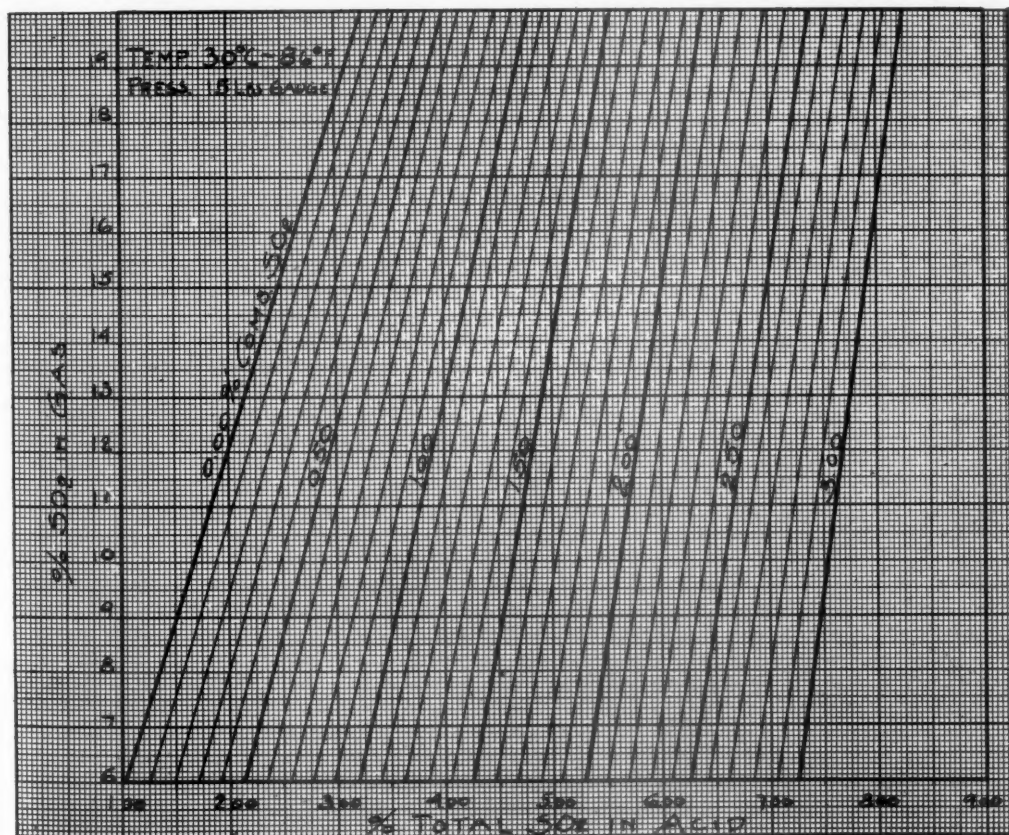


CHART XIX-D.

for the Attention of

PULP MILL EXECUTIVES

***\$100,000 Cash Gift
And 500 - Acre Site***

NEIL COONEY, pioneer Grays Harbor lumberman, died May 8 bequeathing \$100,000 and one of the finest waterfront sites on the Pacific Coast to establish a pulp mill in Cosmopolis where he made his fortune. This advertisement is published by the business men of Aberdeen to assist their neighboring city in securing the permanent industry Mr. Cooney envisioned.

- **Perpetual Wood Supply**
- **Industrial Water**
- **Deep-Water Port**
- **Three Railroads**
- **Non-Critical Area**
- **Housing Surplus**
- **Community of 30,000**
- **Friendly Labor**

Cosmopolis is near the head of tidewater on Grays Harbor, Pacific Coast port strategically located for inter-coastal or trans-Pacific shipping. It is backed by vast pulp-species forests of the Olympic Peninsula insuring perpetual wood supply.

Aberdeen, Cosmopolis and Hoquiam, with common boundary lines, form an industrial community of 30,000 where pulp, paper, plywood, lumber and manufactured lumber products are produced by friendly labor, under responsible leadership, for the markets of the world.

Wire, telephone or write for full details of the Neil Cooney bequest to R. M. Landberg, Manager, National Bank of Commerce, Aberdeen, Washington, or to F. W. Linklater, Manager, Aberdeen Chamber of Commerce.

ABERDEEN CHAMBER OF COMMERCE

ABERDEEN, WASHINGTON

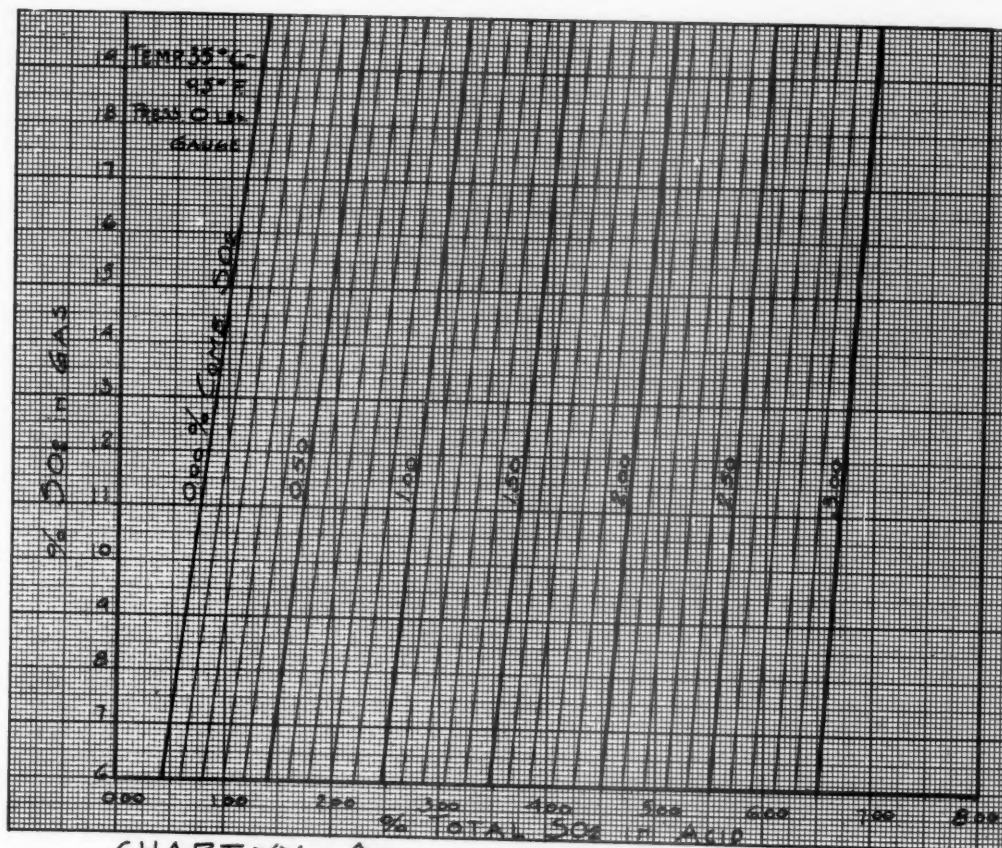


CHART XX-A.

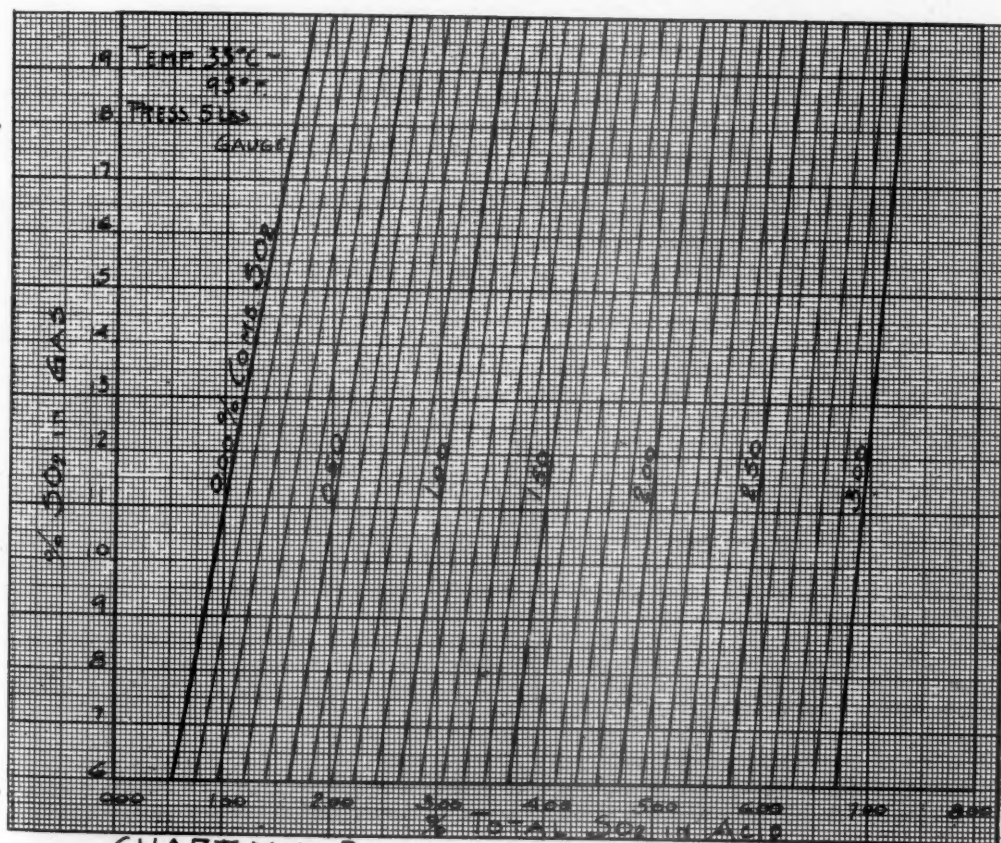


CHART XX-B.

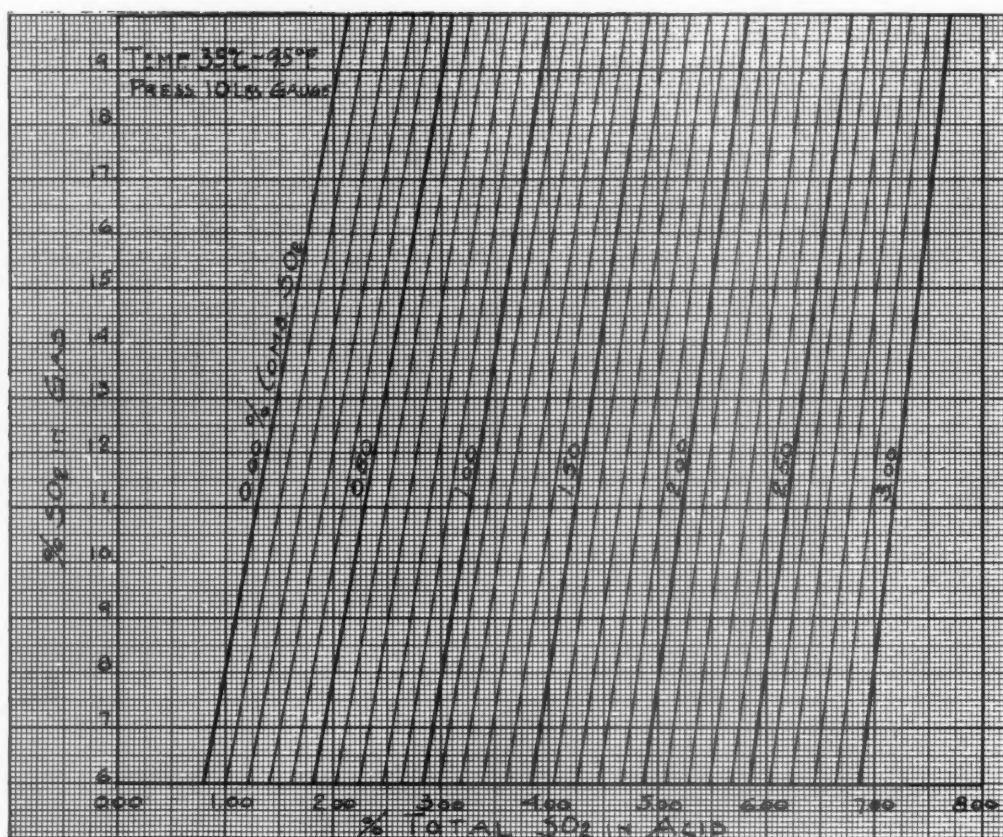


CHART XX-C.

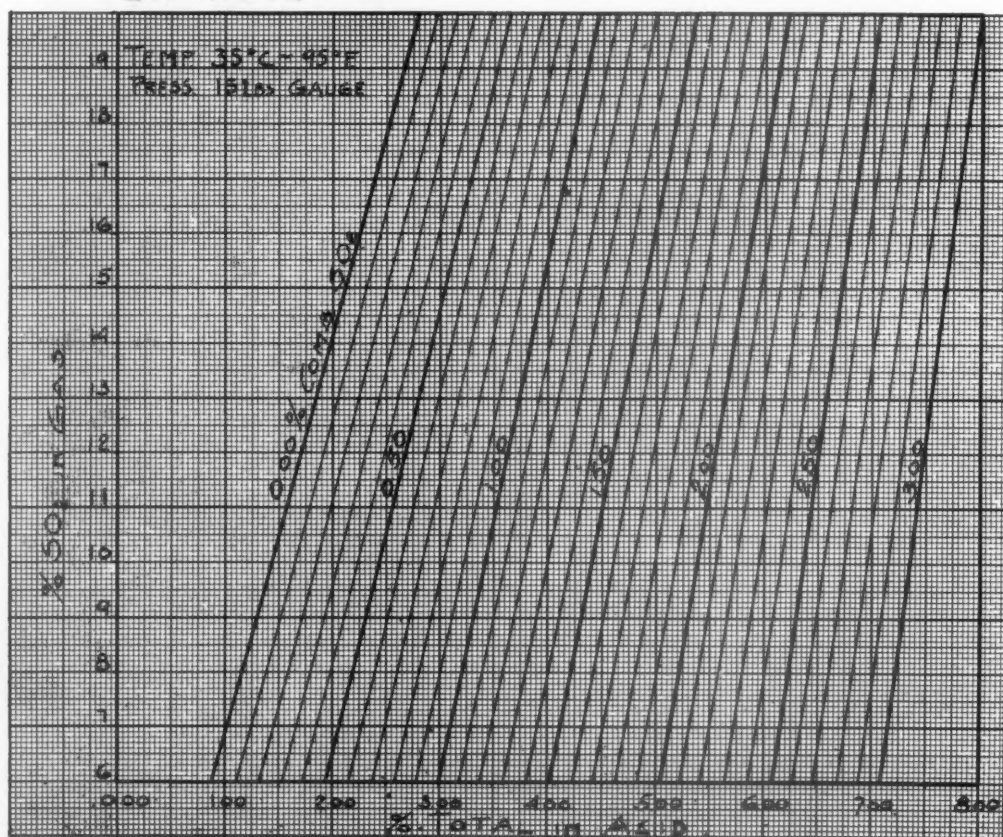


CHART XX-D.

Don Jeffries Joins Newsprint Service Co.

• Don Jeffries, son of Frank Jeffries, president of the Tacoma Paper and Stationery Company, of Tacoma, Wash., has resigned from the Blake, Moffitt & Towne mill department to become manager for Northern California of Newsprint Service Company, with offices in San Francisco.

F. R. Ward covers Southern California territory for Newsprint Service Company, operating out of Los Angeles.

President of the company is Elmer Lee, formerly of Powell River Company in Vancouver, B. C. His headquarters is Seattle, and Newsprint Service Company is the successor to Virginia Dock & Trading Company of which he was vice-president and general manager.

Although Newsprint Service Company services the accounts of Powell River Company in the Pacific states it is a corporation entirely separate from the British Columbia organization.

Charles E. Jones Joins Peanut Brokers As Partner

• Charles E. Jones, former district sales manager, Los Angeles, for the Dobeckmun Company, Cellophane converters, has terminated his connections with that company and has become an active partner in Jones Brokerage Company, 1807 East Olympic Blvd., Los Angeles.

Mr. Jones will be in charge of the packaging supplies department for the Jones company, brokers for peanuts and other imported and domestic food products on the Pacific Coast. He had been with Dobeckmun for seven and one-half years.

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Port Mellon, B. C., Mill Expands Operations

• Important expansion for Sorg Pulp Company at Port Mellon, B. C., is under way and within a few weeks the plant will be producing lumber in considerable volume as well as kraft for the parent company, Sorg Paper Company, Middletown, O.

J. A. Aull, president of the company, accompanied by D. G. Driscoll, vice-president, and E. T. Turner, consulting engineer, were in Vancouver recently conferring with Herman Simpson, manager of the British Columbia operations since last fall, and they also visited the Port Mellon operations.

Although the Sorg Pulp Company's comparatively modern and well equipped mill was operated in the production of lumber under lease to Lake Logging Company some months ago, recently it has been merely operated a few hours daily for the handling of logs for conversion into pulp. From now on it is planned to make fuller use of

the company's timber supplies by breaking down the log, using a good proportion of it for lumber and the balance, together with waste from the mill, for pulp and fuel.

Rated capacity of the pulp mill is now 2,000 tons a month, but until now this rate has not been attained. The present objective, however, according to Mr. Simpson, is about 3,300 tons. This will be accomplished by making fuller use of the plant's productive capacity, smoothing out various bottlenecks at the mill and generally increasing efficiency. About 225 men are currently employed.

A more complete outline of the plans for the sawmill operation will be announced shortly.

For the present no new equipment is being added with the exception of a U-Bar drum barker manufactured by Fibre-Making Process Company of Chicago.

At Port Mellon the plant superintendent is T. Iverson; Al Harris

is assistant superintendent and technical director; James Linburn, resident engineer; Gordon Morrison, power plant engineer; E. Streeter, chief engineer; R. Gemmel, office manager.

Most of the company's logs are now being bought on the open market. The kraft is shipped to Vancouver by barge and steamship for shipment. Lumber to be produced in the sawmill will be for the domestic and United Kingdom market.

Mr. Simpson was resident engineer for the Port Townsend, Wash., division of Crown Zellerbach Corporation for many years before going to British Columbia.

President Foley Returns

Harold Foley, president of Powell River Company, has returned from a business trip to Chicago and New York. Roy Foote, assistant manager, Powell River Sales Company, made a goodwill tour of the Alberta market territory in May.

Canadian Newsprint Manufacturers Ordered to Reduce Exports 12 Per Cent

● While Guy E. Hoult, Montreal, the new Canadian newsprint coordinator for Canada, was meeting in New York on June 7 with Harry M. Bitner, director of the WPB printing and publishing branch, it was revealed that Canadian newsprint manufacturers had been ordered to reduce their exports 12 per cent.

Shortly before this, Donald M. Nelson, head of the U. S. War Production Board, announced that Canada had agreed to ship 210,000 tons of newsprint a month to the United States during 1943, a total of 2,520,000 tons a year. This represented a reduction of

300,000 tons from shipments reported in 1942 and 250,000 tons under the 1941 figure.

Production in Canada during April, 1943, amounted to 229,573 tons and shipments to 243,813 tons, according to the News Print Service Bureau of New York City. Production in the United States was 68,001 tons and shipments 70,368 tons, making a total United States and Canadian newsprint production of 297,574 tons and shipments of 314,181 tons. During April, 13,134 tons of newsprint were made in Newfoundland, so that the North American production for the

month amounted to 310,708 tons. Total production in April, 1942, was 386,376 tons.

The Canadian mills produced 231,802 tons less in the first four months of 1943 than in the first four months of 1942, which was a decrease of nineteen and nine tenths per cent. The output in the United States was 50,946 tons or fifteen and seven tenths per cent less than in the first four months of 1942, and in Newfoundland production was 53,750 tons or forty-eight and nine tenths per cent less, making a total decrease of 336,498 tons, or twenty-one and one tenth per cent less than in the first four months of 1942.

Production of newsprint in British Columbia has been substantially less this year owing to log shortage and other factors. Powell River Company, now operating on a five and two-thirds-day week, has been chiefly affected.

More Available?

● While restrictions were being imposed, it is interesting to note that a prominent Canadian producer said more newsprint could be made.

International Paper Company is now in a position to produce more newsprint paper in Canada for the use of United States newspapers, according to Richard J. Cullen, president.

"We are now producing 65 per cent of the normal newsprint volume in Canada and could raise this production to 85 per cent if necessary," said Mr. Cullen at the annual meeting of his company in Montreal.

"The power, labor and transportation situation is in perfect condition to supply an undiminishing amount of newsprint to American newspapers throughout this year and well into next year."

United States publishers used 71,414 more tons of newsprint during the first quarter of 1943 than they received, drawing on reserve stocks for the balance, according to the usually well informed Financial Post, Toronto.

The American newspapers, according to this source, reduced consumption in the three months only 4.7 per cent compared with the base period—the same three months of 1941—and exceeded by 39,350 tons the quota set by the War Production Board, which called for a reduction of 10 per cent.

Some executives of pulp and paper companies declare that the only way in which there could be any increase in the supply of paper during the months ahead is for the industry to reduce the amount of pulp which it has agreed to deliver to the United Kingdom and the United States. There is small chance of this being done.

Warren Made

Coast Guard Officer


William T. Warren, Santa Barbara, Calif., sales representative, Pioneer Division, The Flintkote Co., Los Angeles, was inducted into the Coast Guard temporary reserve as Lieutenant, junior grade, at Long Beach, April 26. Lt. Warren, as captain of Division 8, Coast Guard Auxiliary, with territory covering Santa Barbara, Hueneme and Ventura, was credited with an outstanding job of organization and successfully carrying out important assignments.

FIELD NOTES

Wash the Faces of DIRTY BELTS

Transmission belting operating in windy areas or without adequate housing may accumulate a film of sand, dust or dirt that will cause belt slippage with resultant loss of horsepower.

Saturate a piece of cloth or waste with castor oil or boiled linseed oil. Holding against the face of the belt as it revolves will remove the objectionable film. Another similarly treated cloth or waste held against the face of the belt will "dress" the belt in good shape. Light and frequent applications are recommended.



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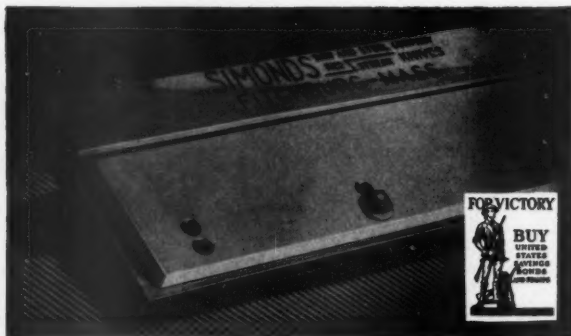
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INDEX OF ADVERTISERS

A		M	
Aberdeen Chamber of Commerce	36	McMaster, Leonard	43
Alaskan Copper Works	47	Merrick Scale Mfg. Co.	46
Albany Felt Co.	43	N	
Appleton Wire Works	43	Nash Engineering Co.	44
Appleton Woolen Mills	46	National Aniline Division Allied Chemical & Dye Corp.	42
Asten-Hill Mfg. Co.	44	Northwest Filter Co.	43
B		O	
Bagley & Sewall Co.	46	Orr Felt & Blanket Co.	48
Beloit Iron Works	1	P	
Black Clawson Co.	1	Pacific Coast Supply Co.	42
Bulkley, Dunton Pulp Co.	4	Pacific Gear Works	46
C		Pacific Gear & Tool Works	46
Cameron Machine Co.	43	Pennsylvania Salt Mfg. Co. of Washington	47
Chemipulp Process, Inc.	48	Perkins Goodwin Co.	47
Chromium Corporation of America	46	Pioneer Rubber Mills	40
E		Puget Sound Power & Light Co.	41
Eastwood-Nealley Corp.	41	Pulp Bleaching Co.	47
Edison Storage Battery Co.	46	Pusey & Jones Corp.	47
Electric Steel Foundry Co.	44	Outside Back Cover	
F		R	
Ferguson & Co., Hardy S.	47	Kayonier Incorporated	Insert
Foxboro Co., The	32	Ross Engineering Corp., J. O.	47
Freeport Sulphur Co.	44	Schoenwerk, O. C.	47
G		Schuler & Benninghofen	41
General Dyestuff Corp.	Insert	Simonds Saw and Steel Co.	48
General Electric Co.	3	Soundview Pulp Co.	2
Great Western Division, The	27	Stebbins Engineering Corp.	39
Dow Chemical Co.	27	Stetson-Ross Machine Co.	47
H		T	
Hardy, George F.	47	Tide Water Associated Oil Co.	34
Heise-Ersted Iron Works	43	W	
Hooker Electrochemical Co.	29	Waterbury & Sons Co., H.	45
I		Western Gear Works	46
Instrument Laboratory, Inc.	47	Western Precipitation Corp.	43
J		Weyerhaeuser Timber Co., Pulp Division	46
Johnson Corporation, The	46	Wisconsin Wire Works	46
Jones & Sons Co., E. D.	46		